PB81-136483

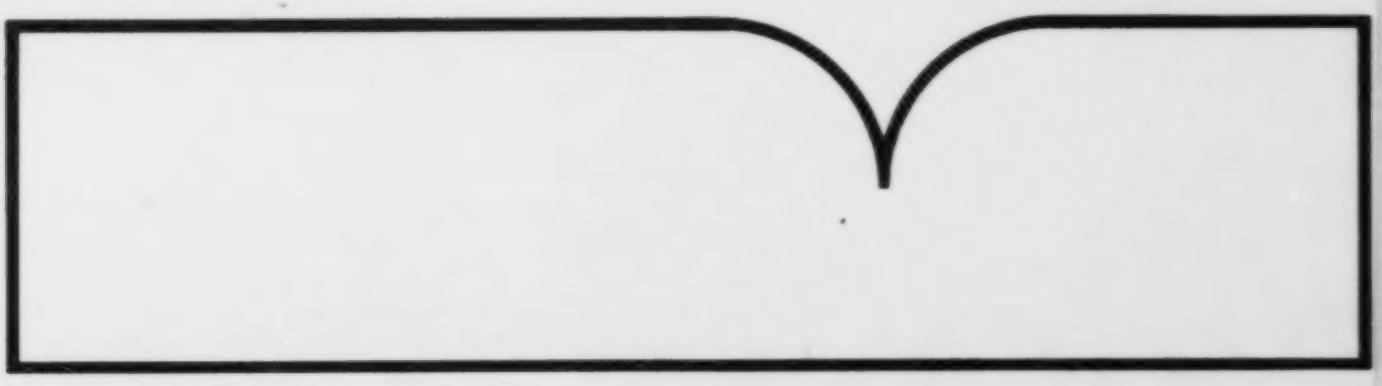
Compilation of BACT/LAER (Best Available Control Technology)/(Lowest Achievable Emission Rate) Determinations, Revised

PEDCo-Environmental, Inc.
Cincinnati, OH

Prepared for

Environmental Protection Agency
Research Triangle Park, NC

May 80



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15. SUPPLEMENTARY NOTES This report will be supplemented from time to time as new determinations require. Users of this report should contact Regional Offices to get number of subsequent reports.

16. ABSTRACT

The report gives the results of a survey of Regional files for PSD and nonattainment permits issued. The original permit applications in the Regions' files were reviewed and summary sheets completed from the data contained in the applications. The main purpose of the summary sheets was to let people know where similar source category determinations have been made. Only a selected number of determinations per category are shown on the summary sheets followed by a total listing of locations where all other similar category determinations have been made. The vast majority of these determinations are BACT and up to January 1979.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS		b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Air Pollution	Bark	Air Pollution Control	
Industrial Processes	Nitrogen Oxides	Stationary Sources	
Combustion Sources	Scrubbers	BACT	
Control Equipment	Baghouses	LAER	
Coal	Electrostatic Precipitators	Sulfur Dioxide	
Oil		Particulate	

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EPA

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REPRODUCED BY
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Task No. 42

EPA Project Officer: Gary Rust

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Air, Noise, and Radiation
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

May 1980

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Publication No. EPA-450/2-80-070

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INTRODUCTION

The Clean Air Act as amended in 1977 contains technology-based limitations affecting the location and construction of new or modified air pollution sources: (1) New Source Performance Standards (NSPS), (2) National Emission Standards for Hazardous Air Pollutants (NESHAPS), (3) Best Available Control Technology (BACT), and (4) Lowest Achievable Emission Rate (LAER). Adoption of Regulations for the Prevention of Significant Air Quality Deterioration, the issuance of the Emission Offset Interpretive Ruling and increased promulgation of NSPS have greatly increased the complexity of new source review (NSR) determinations. Although the specific criteria governing a BACT, LAER or NSPS determination vary, the general underlying approach for all such determinations is to require "best control" on all major new sources.

Both the complexity and workload of making NSR decisions have increased drastically. New source review is a continuing program and the making or overseeing of complex decisions impacts most heavily on state, local, and regional offices. Because it is extremely important that control technology decisions made in the field be consistent throughout the nation, the overall purpose of this "Compilation of BACT/LAER Determinations" is to support those who make BACT/LAER determinations, to engender and ensure national consistency in control technology decisions and to establish a formal system that promotes communication, cooperation, and sharing of information.

The intent of this report is to provide field offices with current information on determinations that have been made, abstracts of recent determinations on sources of a similar size and nature, and useful (although somewhat limited) data on the emission limits

imposed and control strategies utilized to achieve those limitations. The report contains pertinent data abstracted from determinations made nationwide. This information allows one to ascertain if a determination on a source of a similar size and nature has been made and what the substance of that determination was. It also provides a quick reference that can lead to the acquisition of more detailed information.

The compilation is not and is not intended to be a comprehensive, detailed reporting of determinations made. Because both BACT and LAER are to be determined on a case-by-case basis the inclusion of detailed information on each determination would be of questionable use and might tend to prescribe and bias the individualized consideration that should be afforded an entity seeking approval to install a new source or modify an existing one. Also, this compilation must be kept current if it is to be of value and used. Because this entails continual updating from the field, a detailed reporting requirement would be burdensome to field personnel.

The information herein is limited to that which field offices indicated would be most useful to them and to that which could be easily abstracted from a determination and reported with minimal effort. The importance of field office reporting cannot be overemphasized. An effective and intensive system of cooperation and communication is necessary to keep state, local and regional offices current regarding actual control determinations, policy and precedent and to promote nationwide consistency. Diligent two-way communications are imperative for the compilation to be effective, to provide useful support, and to serve as a BACT/LAER clearinghouse. Because NSR decisions are dynamic in nature the results of field determinations must be reported as they are made and distributed back to the field in a timely fashion. The primary benefactors of this compilation are those engaged in new source review activities. Field offices are therefore urged to contribute to its value and utility by routinely reporting when determinations are made so that they and others may benefit.

CONTENT

The compilation contains abstracts of Bact determinations made by U.S. Environmental Protection Agency (EPA) Regional Offices and LAER determinations obtained from the files of state and local agencies. The BACT determinations were made under two sets of regulatory requirements and decision criteria: those made under PSD regulations prior to the Clean Air Act Amendments of 1977 and those made under PSD regulations as amended June 18, 1978, in response to the 1977 amendments. This compilation consists of BACT and LAER determinations made prior to May 1980.

FORMAT

For easy reference and use, the compilation is divided into familiar source categories. The various section titles and subtitles are generally the same as those found in EPA publication AP-42, "Compilation of Air Pollutant Emission Factors." Within each source category or subcategory, BACT determinations are listed first, followed by LAER determinations for the same source or facility type.

Not all abstracts of a given type are presented. In general the determinations selected are those that best represent the source category and exemplify applicable control technology, control strategy detail, completeness, and governing policy, or those that are precedental in nature. When appropriate, additional determinations are included that are unique or substantially different (because of size, process, fuel or other parameters). All other determinations that have been reported for a category are summarized in a table following the example determinations. This table provides the name of the source, its location, facility descriptors and the identify of the local, state, or EPA regional office providing the determination.

USE

Use of the compilation is straightforward. Upon receipt of an application for construction, reconstruction or modification the user can ascertain the number of previous determinations for similar sources or facilities; their location, size, and the pollutants emitted; the basis for and substance of emission limits; the control strategy to be employed; and most importantly, to acquire additional information. The compilation serves to expedite the new source review process by offering the user immediate knowledge regarding the substance of determinations made on similar sources and by providing a quick reference to aid in the acquisition of more detailed information.

COMPILATION UPDATE

The available data base for this compilation will expand as more determinations are made and reported. In addition, although the basic criteria on which determinations are to be based may not change, the substance of those criteria may. Changes in state implementation plan (SIP) limitations will occur in response to revisions mandated in the Clean Air Act as amended. Advances in control technology and equipment performance and the evolution of innovative technology can be expected to result in lower achieved-in-practice emission levels. Additional NSPS are scheduled for promulgation in the near future and revisions to some existing NSPS are being considered.

As the data base broadens and as changes occur in the technical or policy aspects of NSR determination changes must be made in the compilation to provide an up-to-date and current reference source and technical service. Timely reporting of determinations by regional, state, and local agency offices and the early distribution of reported data back to the field are essential to that update. Equally important is that any change or anticipated change in regulations, policy, or other NSR related

matters be rapidly disseminated to the field. Maintenance of effective two-way communications can result in a current and useful compilation of determinations that reflects NSR policy and contributes to nationwide consistency.

INSTRUCTIONS FOR COMPLETING BACT/LAER CLEARINGHOUSE REPORT

The purpose of this compilation is to assist field offices and to provide a technical service to those engaged in new source review activities. Because the value and utility of the compilation depend largely on the quantity, quality, and timeliness of input received from the field offices, these offices are urged to contribute routinely to this compilation. Such contributions will enhance its content, coverage, and value as a resource tool.

The BACT/LAER CLEARINGHOUSE REPORT form is in two parts. The first page (face sheet) provides the user with the information necessary to ascertain quickly if the application under review is similar to a determination previously made and reported. It gives data regarding source/facility size, emissions, and control strategies, and lists a contact from whom additional information can be obtained. The second page (reverse side) is devoted to useful information on offsets (LAER determination); to key, definitive data on control equipment parameters; and to fuel characteristics and use.

The entries to be made on the reporting form are explained below. Entry headings are referenced to the coded example form that follows the narrative explanation.

(1) SOURCE TYPE/SIZE

Where possible, use one of the categories* listed in the compilation to define the source type. Size should indicate the total capacity of the new (modified) plant.

---

* The categories are similar to those found in "Compilation of Air Pollutant Emission Factors," EPA Publication AP-42, U.S. Environmental Protection Agency Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina 27711.

INSTRUCTIONS FOR COMPLETING BACT/LAER CLEARINGHOUSE REPORT
(continued)

② NAME/ADDRESS

Insert NAME and ADDRESS of the proposed facility.

③ CONDITIONAL/FINAL/PENDING

Circle "CONDITIONAL" if the permit lists specific emission limit but the precise nature of the control strategy (i.e. source of fuel, control equipment, etc.) has not been specified.

Circle "PENDING" or "FINAL" depending on status of the determination.

④ BACT/LAER

Circle "BACT" or "LAER" depending on type of determination.

⑤ NEW/MODIFIED SOURCE

Circle "NEW" or "MODIFIED" according to definitions in the Clean Air Act and EPA regulations.

⑥ KEY DATES

Insert calendar KEY DATES that specify when the initial application was first received; when the application was deemed complete, i.e., all requested additional and supplementary information necessary to a proper evaluation has been received; when the preliminary (proposed) determination was made (ready for public comment); and when the determination was issued as final.

⑦ BY

List the phone contact, person, and agency that made the determination.

⑧ AFFECTED FACILITIES

List each facility by name (kiln, boiler, etc.) for which a throughput limit, operating limit, emission limit, control strategy, performance or equipment standard, etc. has been specified.

⑨ THROUGHPUT CAPACITY

Indicate the input rate of raw material and/or fuel to the facility (as tons/h, millions Btu/h, etc.) when operated at maximum design capacity.

(10) EMISSION RATE - UNCONTROLLED

Enter the UNCONTROLLED EMISSION RATE for each facility at the throughput capacity conditions specified in item 9. An entry should be made for each pollutant or parameter for which a control requirement or other restraint has been specified (PM, SO_2, CO, NO_x, opacity, etc.). Use a separate line for each entry, and identify the pollutant. For consistency and ease of comparison and use, list the emission rate in the same units as those used in AP-42 for the source type.

(11) EMISSION LIMITS

List the EMISSION LIMITATIONS (or other) as stated in the permit or permit conditions here and align them horizontally with the companion pollutant in the previous column 10. As in item 10, list in AP-42 units wherever possible to facilitate comparison and promote consistency.

(12) CONTROL STRATEGY DESCRIPTION

CONTROL STRATEGY includes control equipment (ESP, fabric filter, etc.), operational modifications, limits on the type and amount of raw materials used, limits on throughput or hours of operation, maintenance requirements, equipment specifications, etc. Align these listings with data presented in preceding columns 10 and 11. They may be supplemented with key-coded footnotes under NOTES 14, 21 and 25.

(13) SOURCE OPERATION

Circle "BATCH" or "CONTINUOUS" to indicate operational mode of the source; indicate approximate annual operating hours and, if operation is seasonal, the percentage of annual operating time during Winter, SPring, SUmmer and Fall.

(14) NOTES

Use this space to amplify or explain any of the other entries, such as an explanation of any unusual permit conditions or features, or the changing permit requirements with time. Key-code to identify the entry addressed.

(15) CONTROL EQUIPMENT PARAMETERS

The efficiency entries pertain to the Capture (hoods, ductwork, etc), Collection (control device) and Overall (combination of capture and collection) system efficiencies. ACFM refers to the volumetric flow rate through the control devices (Actual Cubic Feet per Minute at the air stream temperature in degrees Fahrenheit). System cost entries are Capital and Annual Operating costs.

(16) CYCLONES

Enter the cyclone Type; cyclone Tube information, i.e., number (No.) of tubes, diameter (D-inches), length (L) in feet; pressure drop (ΔP) in inches of water, and inlet velocity to the tube in feet per second (ft/s).

(17) ESP (Electrostatic Precipitator)

Enter Type of ESP as well as the Total plate area (square feet); SCA (Surface Contact Area), in square feet per 1000 ACFM; L/W (aspect) ratio (ratio of plate length to width); and Linear velocity in feet per second (ft/s).

(18) FABRIC FILTER

Enter the Type of fabric filter device, Cleaning mode, Fabric type, pressure drop (ΔP) in inches of water and Filter velocity, or air-to-cloth ratio (A/C), in feet per second (ft/s).

(19) SCRUBBER

Enter the scrubber Type; liquid-to-gas (L/G) ratio in gallons per 1000 ACFM; pressure drop (ΔP) in inches of water; and the nature of the scrubber Liquid used.

(20) AFTERBURNER

Enter the Temperature of the combustion (destructor) zone in degrees Fahrenheit (°F); the Residence Time in seconds(s) at that temperature; and the length-to-diameter (L/D) ratio of the afterburner.

(21) OTHER TYPE CONTROLS/REMARKS/ETC.

Use this space to amplify, clarify, or explain sections 15 through 20 and to describe or define "OTHER" controls not addressed in 15 to 20 (such as fugitive emission control, catalytic oxidation).

(22) FUEL PARAMETERS

In the space provided, identify the fuel used and list the important fuel parameters of Ash and Sulfur content in percent (%) and the heating value (HV) of the fuel in Btu per pound (lb) or gallon (gal) or cubic foot (CF). The Use Rate entry is to be made in terms of quantity (lb., gal, CF) over a representative period of time (day, week, month, year).

(23) PARTICLE SIZE and/or FRACTIONAL EFFICIENCY DATA

Use this table to record either or both of the following: aerosol size characterization [size in micrometers (μm) vs. percent less than stated size (%<)]; fractional efficiency of a control device [aerosol size (μm) vs. percent collection efficiency of that size (%) at a given pressure drop (Δ P) in inches of water].

(24) OFFSET DATA

Circle or specify the pollutants for which offsets are to be obtained; indicate the location of offsets (on/off site, i.e., external or internal to the applicant's industrial plant site); circle the type of offset [from fugitive or point source(s)]; and specify the Amount required and Achieved in Tons per year (T/Y).

(25) Use this space to explain and clarify items 22 through 24 or to expand on 21 (15 through 20).

If data are extensive use additional forms and number the pages in the spaces provided (Page____of____). A blank (uncoded) form is provided for copying and subsequent use in the reporting of determinations.

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: ①_____

NAME/ADDRESS: ②_____

DETERMINATION DATA: ③ CONDITIONAL/FINAL/PENDING for BACT/④LAER on NEW/⑤MODIFIED SOURCE

KEY DATES: ⑥ Application-Recd._____, Completed_____; Determination-Proposed_____, Final__ _____

BY: ⑦ (Agency)_____ Person_____ Phone_____

AFFECTED FACILITIES ⑧	THROUGHPUT ⑨ CAPACITY	EMISSION RATE* ⑩ -UNCONTROLLED	EMISSION LIMITS ⑪ (Basis)**	CONTROL STRATEGY DESCRIPTION ⑫ Equipment type, etc.	Eff. %

SOURCE OPERATION: ⑬ BATCH/CONTINUOUS: _____hrs/yr; % by Season_____ W _____ Sp _____ Su _____ F

⑭

NOTES: _____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

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CONTROL EQUIPMENT PARAMETERS: (15) Efficiencies (%) Capture_____, Collection_____, Overall_____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: (16) Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP (17) Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: (18) Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: (19) Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: (20) Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC (21)_____

FUEL PARAMETERS: (22) Type_____;____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA (23)

µm	%<	ΔP, in. H_2O

OFF-SET DATA: (24) POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. (25)_____

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: _____

NAME/ADDRESS: _____

DETERMINATION DATA: CONDITIONAL/FINAL/PENDING for BACT/LAER on NEW/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final_____

BY: (Agency)_____ Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ _____ _____ _____
W Sp Su F

NOTES: _____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

Rev. 5/80

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture_____, Collection_____, Overall_____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ____in. H_2O; Inlet Vel. = ____ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

CONTACT LIST U.S. EPA REGIONS

Region	Address	Telephone
I	John F. Kennedy Federal Building Room 2303 Boston, MA 02203	(617) 223-4448
II	Federal Office Building 26 Federal Plaza, New York, NY 10007	(212) 264-2611
III	Curtis Building Sixth and Walnut Streets Philadelphia, PA 19106	(215) 597-8177
IV	345 Courtland, NE Atlanta, GA 30308	(404) 881-2864
V	230 South Dearborn Chicago, IL 60604	(312) 353-2205
VI	First International Building 1201 Elm Street Dallas, TX 75270	(214) 767-2746
VII	324 E. 11th Street Kansas City, MO 64108	(816) 374-3791
VIII	1860 Lincoln Street Denver, CO 80295	(303) 837-3763
IX	215 Fremont Street San Francisco, CA 94105	(415) 556-8005
X	1200 Sixth Avenue Seattle, WA 98101	(206) 442-1387

BACT/LAER COMPILATION CATEGORIES

1.0 External Combustion

- 1.1 Coal fired
- 1.2 Oil fired
- 1.3 Combination and Other (wood, bagasse, etc.)

2.0 Solid Waste Disposal

- 2.1 Refuse incineration (liquid, solid)
- 2.2 Sewage sludge incineration
- 2.3 Other (auto body, pathological, etc.)

3.0 Internal Combustion

4.0 Evaporative Loss

- 4.1 Surface coating
- 4.2 Petroleum liquids storage
- 4.3 Transportation and marketing of petroleum liquids
- 4.4 Graphic Arts and Other

5.0 Chemical Processes Industries

- 5.1 Acid Manufacture
- 5.2 Carbon black
- 5.3 Charcoal
- 5.4 Paint and varnish
- 5.5 Petrochemical and chemical manufacturing
- 5.6 Other (explosives, etc.)

6.0 Food and Agricultural Industries

- 6.1 Alfalfa dehydrating
- 6.2 Feed/grain mills and elevators
- 6.3 Fertilizer
- 6.4 Other

BACT/LAER COMPILATION CATEGORIES (Continued)

7.0 Metallurgical Industries

- 7.1 Primary aluminum
- 7.2 Metallurgical coke
- 7.3 Ferroalloy
- 7.4 Foundries - gray iron, steel, non-ferrous
- 7.5 Iron and steel mills
- 7.6 Primary smelters - copper, lead, zinc
- 7.7 Secondary metal processing - aluminum, lead, zinc
- 7.8 Other

8.0 Mineral Products Industries

- 8.1 Asphalt and concrete batch plants
- 8.2 Coal preparation
- 8.3 Fiber glass and glass
- 8.4 Gypsum and lime
- 8.5 Mineral quarrying and processing
- 8.6 Portland cement
- 8.7 Other

9.0 Petroleum Industry

- 9.1 Petroleum refining

10.0 Wood Processing

- 10.1 Chemical wood processing (pulp mills)
- 10.2 Other

11.0 Miscellaneous

1.0 EXTERNAL COMBUSTION

1.1 Coal fired

1.2 Oil fired

1.3 Combination and Other (wood, bagasse, etc.)

1.1

BACT

BACT/LAER CLEARINGHOUSE REPORT (1.1)

SOURCE TYPE/SIZE: ELECTRIC GENERATING STATION TWO - 350 MW EACH

NAME/ADDRESS: TUCSON GAS AND ELECTRIC, TUCSON, ARIZONA Site at Apache County, AZ

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 12/21/77 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IX
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Coal-fired generating units (2)	350 MW each (1200x10^6 Btu/h each)	TSP	[b] 0.034 lb/10^6 Btu (B)	Hot side ESP	
		SO_2	[b] 0.69 lb/10^6 Btu (B)	Wet lime scrubbing	64
		NO_x	[b] 0.697 lb/10^6 Btu (N)		
		Opacity	15%		
Coal handling [a]		TSP		Spray application and dust collectors	
Bottom ash [a]				Hydraulic conveyance	
Fly ash [a]				Pneumatic conveyance	

NOTES: [a] - Detailed control strategy for these facilities is given in permit. Wet suppression shall be used to control fugitive dust during construction. Sampling of coal is required.

[b] - This degree of control was proposed by the company in its application.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

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BACT/LAER CLEARINGHOUSE REPORT (1.1)

SOURCE TYPE/SIZE: ELECTRIC GENERATING UNIT NO.5 350 MW

NAME/ADDRESS: ARIZONA PUBLIC SERVICE COMPANY, PHOENIX, AZ Site at Joseph City, AZ

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 2/15/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IX (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Coal-fired boiler	350 MW	TSP a	0.05 lb/10^6 Btu	ESP	
	(12000x10^6Btu/h)	SO_2 a	0.072 lb/10^6 Btu	Wet limestone scrubbing and low S coal	94
		NO_x	0.7 lb/10^6 Btu (N)		
Coal handling areas		TSP		Dust control system	
Limestone handling areas		TSP		Dust control system	

NOTES: a - The degree of control was proposed by company in its application.
Fugitive dust shall be controlled during construction by water spray. Bottom ash shall be pumped to a spray pond. Ash shall be mixed with waste sludge from SO_2 absorbers and or wastewater from cooling tower and transported in a slurry to a separate disposal area.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT (1.1)

SOURCE TYPE/SIZE: FOSSIL FUEL FIRED GENERATING STATION 233 MW

NAME/ADDRESS: PLAINS ELECTRIC GENERATION AND TRANSMISSION COOP, McKINLEY COUNTY, NM

DETERMINATION DATA: (CONDITIONAL)/FINAL/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 3/2/79

BY: (Agency) EPA REGION VI Person Tom Winkler Phone (214) 767-2742

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Boiler	1[illegible]875 tons/h	TSP	.03 lb/10^6 Btu (B)	ESP	99.9
	Coal	SO_2	.3 lbs/10^6 Btu (B)	FGD Wet Limestone staged	85+
		NO_x	.45 lbs/10^6 Btu (S)	combustion LEA firing with	
				continuous flue gas monitor-	
				ing and control of air/fuel	
				ratio.	
Coal handling:					
A. Stockpiling		TSP	(B)	Wet suppression: crusting agent	
B. Unloading & con-		TSP	(B)	Baghouse Dust collector	90
veying				covered conveying	

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES:_____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT

(1.1)

SOURCE TYPE/SIZE: FOSSIL FUEL FIRED GENERATING STATION 233 MW

NAME/ADDRESS: PLAINS ELECTRIC GENERATION AND TRANSMISSION COOP, McKINLEY COUNTY, NM

DETERMINATION DATA: (CONDITIONAL)/FINAL/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 3/2/79

BY: (Agency) EPA REGION VI Person Tom Winkler Phone (214) 767-2742

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Limestone handling					
A. Unloading		TSP	(B)	Baghouse Dust Collector	80
B. Conveying		TSP	(B)	Baghouse Dust Collector	90
C. Storage		TSP	(B)	Baghouse Dust Collector	50

SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season _____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES: _____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture_____, Collection_____, Overall_____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT (1.1)

SOURCE TYPE/SIZE: FLUIDIZED BED COAL BOILER 70×10^6 Btu/h

NAME/ADDRESS: COMBUSTION ENGINEERING GREAT LAKES NAVAL BASE, IL

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 3/1/79

BY: (Agency) REGION V Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Fluidized bed boiler	70×10^6 Btu/h	PM	0.03 gr/dscf	Fabric filter	99+
		SO_2	[a] 0.7 lb/10^6 Btu	Fluidized bed	90
		NO_x	0.5 lb/10^6 Btu	Fluidized bed (low temperature	
				combustion)	

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES: [a] Denotes 24 hour average

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = 1.5 ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

SO_2 control - Use calcium to sulfur ratio of 4:1 in fluidized bed.

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

10

BACT/LAER CLEARINGHOUSE REPORT

(1.1)

SOURCE TYPE/SIZE: COAL FIRED BOILER 150x10^6 Btu/h

NAME/ADDRESS: GENERAL MOTORS DELCO DAYTON, OHIO

DETERMINATION DATA: CONDITIONAL/FINAL/(PENDING) for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final_____

BY: (Agency) EPA REGION V Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Coal fired boiler	150x10^6 Btu/h	SO_2	[a] 1.2 lb/10^6 Btu(L)	Low sulfur coal	
				(0.69% S)	
		PM	0.06 lb/10^{6}Btu(B)	Multicyclone, fabric filter	99.5

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ (W) _____ (Sp) _____ (Su) _____ (F)

[a] Denotes 24 hour average

NOTES:

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall 99.5 %

ACFM 55000 at ___-___ °F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode: Reverse Fabric: Fibreglass ΔP = _____in. H_2O;

Filter vel. (A/C) = 2.25 ft/s; Other 6 modules

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

12

BACT - ADDITIONAL DETERMINATIONS - EXTERNAL COMBUSTION SOURCES 1.0
(COAL FIRED - 1.1)

NAME - LOCATION	DESCRIPTORS	AGENCY
CRA, Inc. Coffeeville, KS	480×10^6 Btu/h	EPA RO VII
City of Grand Island, NE	100 MW	EPA RO VII
Board of Public Utilities Kansas City, KS	256 MW	EPA RO VII
Big River Electric Company Robards, KY	2660×10^6 Btu/h	EPA RO IV
Wisconsin Public Service Corp. Weston, WI	3423×10^6 Btu/h	EPA RO V
Carolina Power & Light Roxboro, NC	3940×10^6 Btu/h	EPA RO IV
Delmarva Power & Light Indian River, DE	400 MW	EPA RO III
Wisconsin Power & Light Sheyboygal, MI	400 MW	EPA RO V
Otter Tail Power Company Beulah, NC	440 MW	EPA RO VIII
Public Service Co. of Colorado Brush, CO	500 MW	EPA RO VIII
Minnesota Power & Light Cohasset, MN	500 MW	EPA RO V
East Kentucky Power Corp. Maysville, KY	526 MW	EPA RO IV
Miller Steam Plant Porten, AL	600 MW	EPA RO IV
Associated Electric Co-Op Moberly, MO	610 MW	EPA RO VII
Kansas City Power & Light Kansas City, MO	630 MW	EPA RO VII
Iowa Southern Utilities Company Centerville, IA	727 MW	EPA RO VII

BACT - ADDITIONAL DETERMINATIONS - EXTERNAL COMBUSTION SOURCES 1.0
(COAL FIRED - 1.1)

NAME - LOCATION	DESCRIPTORS	AGENCY
Electric Co-Op Inc. Merom, IN	8870x10^6 Btu/h	EPA RO V
Basin Electric Power Co-op Mercer County, ND	880 MW	EPA RO VIII
Kentucky Utilities Company Ghent, KY	1100 MW	EPA RO IV
Florida Power Corp. Crystal River, FL	12,330x10^6 Btu/h 800 tons/h (materials handling)	EPA RO IV
Kansas Power & Light St. Marys, KS	1440 MW	EPA RO VII
Basin Electric Power Co-Op Wheatland, WY	1710 MW	EPA RO VIII
Indiana & Michigan Electric Co. IN	2600 MW	EPA RO V
Sikeston Light & Water Sikeston, MO	1,750,000 lb coal/h	EPA RO VII
Cincinnati Gas & Electric Co. Rabbit Hash, KY	12,600x10^6 Btu/h	EPA RO IV
Big Rivers Electric Corp. Robards, KY (Unit #2)	2660x10^6 Btu/h	EPA RO IV
Northern States Power Becker, MN	800 MW	EPA RO V
Salt River Project St. Johns, AZ	350 MW	EPA RO IX
South Carolina P.S. Authority Georgetown, SC	560 MW	EPA RO IV
Louisville Gas & Electric Wise's Landing, KY	22,800x10^5 Btu/h	EPA RO IV
Wisconsin Power & Light Sheboygan, WI	400 MW	EPA RO V

BACT - ADDITIONAL DETERMINATIONS - EXTERNAL COMBUSTION SOURCES 1.0
(COAL FIRED - 1.1)

NAME - LOCATION	DESCRIPTORS	AGENCY
Sierra Pacific Power Company Reno, NV	500 MW	EPA RO IX
Georgia Pacific Corp. Jarratt, VA	102×10^6 Btu/h	EPA RO III
Cajun Electric Power Corp. New Roads, LA	540 MW	EPA RO VI
South Carolina Elec. & Gas Co. Cope, SC	600 MW (2)	State-SC
South Carolina Public Service Authority near Cross, SC	500 MW	State-SC
South Carolina Elec. & Gas Co. Wateree, SC	600 MW	State-SC
Houston Lighting & Power Houston, TX	550 MW	EPA RO VI
New York State Electric & Gas Somerset, NY	850 MW	EPA RO II
Seminole Electric Coop	680 MW (2)	EPA RO IV
R. J. Reynolds Tobacco Co. Winston-Salem, NC	302.6 MM Btu/h	Forsythe Co. Env.Affairs Dept.
Louisiana Power & Light New Orleans, LA	892 MW (2)	EPA RO VI
Burlington Industries, Inc. Drakes Branch, VA	36 M Btu	EPA RO III
Cargill, Inc. Fayetteville, NC	129 MM Btu/h	EPA RO IV
Cargill, Inc. Gainesville, GA	145×10^6 Btu/h	EPA RO IV

BACT - ADDITIONAL DETERMINATIONS - EXTERNAL COMBUSTION SOURCES 1.0
(COAL FIRED - 1.1)

NAME - LOCATION	DESCRIPTORS	AGENCY
GMC - Milford Proving Grounds Milford, MI	77.8 MM Btu/h (3)	EPA RO V
GMC - Hydra-matic Division Three Rivers, MI	72.8 MM Btu/h (2)	EPA RO V
GMC Fisher Body Division Pontiac, MI	245 MM Btu/h (2)	EPA RO V
GMC Truck & Coach Plant Pontiac, MI	125 MM Btu/h	EPA RO V

1.1

LAER

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

BACT/LAER CLEARINGHOUSE REPORT (1.1)

SOURCE TYPE/SIZE: PROCESS STEAM BOILER (REPLACEMENT) 192×10^6 BTU/HR

NAME/ADDRESS: B.F. GOODRICH COMPANY, CHEMICAL DIVISION, BELLS LANE, LOUISVILLE, KY

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on NEW/(MODIFIED) SOURCE
KEY DATES: Application-Recd._____, Completed_____, Determination-Proposed_____, Final 2/29/80

BY: (Agency) EPA REGION IV Person JOHN BUNYAK Phone (214) 767-2742

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Coal fired boiler	192×10^6 Btu/h	TSP	0.03 lb/10^6 Btu	Baghouse	99.6
		SO_2	1.0 lb/10^6 Btu	Low sulfur coal	-
		NO_x	0.6 lb/10^6 Btu	Design of unit	-

SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season ____ (W) ____ (Sp) ____ (Su) ____ (F)

NOTES: _____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

LAER - ADDITIONAL DETERMINATIONS - EXTERNAL COMBUSTION 1.0
(COAL FIRED - 1.1)

NAME - LOCATION	DESCRIPTORS	AGENCY

1.2

BACT

BACT/LAER CLEARINGHOUSE REPORT

1.2

SOURCE TYPE/SIZE: STEAM GENERATORS (BOILERS) TWO 185×10^6 Btu/hr each

NAME/ADDRESS: HOUSTON LIGHTING AND POWER COMPANY, P.O. BOX 1700, HOUSTON, TX 77001

DETERMINATION DATA: CONDITIONAL (FINAL) PENDING for (BACT) LAER on (NEW) MODIFIED SOURCE
KEY DATES: Application-Recd. _____, Completed _____; Determination-Proposed _____, Final 8/13/79

BY: (Agency) EPA VI Person Winkler Phone _____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE*, -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Boiler No. 1	185 MM Btu/h	SO_2	92.1 lb/h (B)	Low sulfur #2 fuel oil	N/A
		TSP	18.35 lb/h (B)	Flue gas O_2 control	N/A
		NO_x	55.0 lb/h (B)	Low NO_x burner, LEA firing	N/A
Boiler No. 2	185 MM Btu/hr	SO_2	92.1 lbs/hr (B)	Low sulfur fuel oil	N/A
		TSP	18.35 lb/h (B)	Flue gas O_2 control	N/A
		NO_x	55 lb/h (B)	Low NO_x burner, LEA firing	N/A

SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season W _____ Sp _____ Su _____ F _____

NOTES: _____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

BACT/LAER CLEARINGHOUSE REPORT (1.2)

SOURCE TYPE/SIZE: DIESEL FIRED GENERATING UNITS TWO - 13.75 MW EACH

NAME/ADDRESS: HAWAIIAN ELECTRIC COMPANY, INC., HONOLULU, HI SITE AT MAUI, HI

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 10/13/78
BY: (Agency) EPA REGION IX Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Diesel fired generat-	13.75 MW each	NO_2	1.5 lb/10^6 Btu (B)		
ing units (2)					
		TSP	0.054 lb/10^6 Btu (B)		
		CO	0.41 lb/10^6 Btu (B)		
Fuel oil storage tank					

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season W_____ Sp_____ Su_____ F_____

NOTES: Fuel oil consumption limited to 1592 gal/h (ann.avg.), sulfur content limited to 0.5% (daily max. avg.)

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT - ADDITIONAL DETERMINATIONS - EXTERNAL COMBUSTION SOURCES 1.0
(OIL FIRED - 1.2)

NAME - LOCATION	DESCRIPTORS	AGENCY
Gulf Energy and Minerals Kern County, CA	$30x10^6$ Btu/h (as above	EPA RO IX
Southern California Edison Co. Laughlin, NV	$350x10^6$ Btu/h/steam generator - oil field	EPA RO IX
Phillips Petroleum Company Bartlesville, OK	$258x10^6$ Btu/h (ARDS unit)	EPA RO VI
Chaplin Petroleum Company Houston, TX	6350 lb oil/h (heater)	EPA RO VI
Hawaiian Electric Company Maui, HI	13.75 MW (generating units)	EPA RO IV
E.I. DuPont Florence, SC	$99.1x10^6$ Btu/h	State-SC
Fiber Industries Darlington, SC	$44x10^6$ Btu/h	State-SC
Firestone Tire & Rubber Company	640 gal/h/oil	EPA RO VI
Georgia Pacific Corp. Lyon Falls, NY	$100x10^6$ Btu/h/oil	EPA RO II

1.2

LAER

BACT/LAER CLEARINGHOUSE REPORT (1.2)

SOURCE TYPE/SIZE: STEAM GENERATORS - OIL FIRED TWO - 50×10^6 BTU/HR EACH

NAME/ADDRESS: DOUBLE BARREL OIL COMPANY, BAKERSFIELD, CA SITE AT KERN COUNTY CA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 8/10/78

BY: (Agency) EPA REGION IX Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Oil fired steam gen-	50×10^6 Btu/h	SO_2	0.061 lb/10^6 Btu (L)	Flue gas scrubber	95
erating units (2)	each				
42 existing steam-		HC	3 lb/day per well (L)	Vapor recovery	99
driven oil wells					
1000 bbl fuel tank,		HC		a	
750 bbl treating tank					
and 3 - 1000 bbl					
shipping tanks					

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season W_____ Sp_____ Su_____ F_____

NOTES: Fuel usage limited to 439 bbl/day on a daily average and 372 bbl/day on an annual average.

a No oil having a true vapor pressure greater than 0.0012 psia at 150° F shall be stored in these tanks.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT (1.2)

SOURCE TYPE/SIZE: OIL RECOVERY EQUIPMENT - STEAM GENERATORS — 25 UNITS - 50×10^6 BTU/HR EACH

NAME/ADDRESS: GETTY OIL COMPANY, BAKERSFIELD, CA — Site at Kern County, CA

DETERMINATION IS: CONDITIONAL (FINAL) PENDING: DATE OF ISSUE: 11/28/78 BASIS:* BACT[1] (LAER) BACT[2]
FOR (NEW) MODIFIED SOURCE

BY EPA REGION IX
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Steam generators (25)	50×10^6 Btu/hr	SO_2	0.14 lb/10^6 Btu	Scrubbers	90
	each		max. 2 hr avg.		
		NO_x	0.18 lb/10^6 Btu	Ammonia injection	
			max. 2 hr avg.		
New wells (49)		HC		Hydrocarbon recovery	97
				(also required on	
				existing wells)	

NOTES: Applicant shall complete a road paving program. Scrubber also required on 10 existing generators. Fuel use limited to 210/165 bbl/day (daily/annual average), sulfur content limited to 1.3/1.7% by weight (daily/annual average). Previous permit issued 2/15/78 did not include ammonia technology.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT (1.2)

SOURCE TYPE/SIZE: BOILER - OIL FIRED TWO 125,000 LB/HR STEAM EACH

NAME/ADDRESS: ANHEUSER-BUSCH, INC., SACRAMENTO, CA SITE AT VAN NUYS, CA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____, Determination-Proposed_____, Final 2/1/79

BY: (Agency) EPA REGION IX Person _____ Phone _____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Steam boilers (2)	[a] 125,000 lb/h	SO_2		Low sulfur oil 0.25%	
	steam each.				
		NO_x	0.27 lb/10^6 Btu (L)	Low NO_x burners, two-	
				stage combustion	
Existing boilers (4)	[a] 210,000 lb/h	NO_x	0.47 lb/10^6 Btu	As above	
	total				

SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season _____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES: [a] Operation limited by permit

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture_____, Collection_____, Overall_____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

LAER - ADDITIONAL DETERMINATIONS - EXTERNAL COMBUSTION 1.0
(OIL FIRED - 1.2)

NAME - LOCATION	DESCRIPTORS	AGENCY
Pacific Oil Company Kern County, CA	$50x10^6$ Btu/h/steam generators for oil well stimulation	EPA RO IX
Sun Production Company Kern County, CA	$50x10^6$ Btu/h (as above)	EPA RO IX
The HOP Corporation Kern County, CA	$50x10^6$ Btu/h (as above)	EPA RO IX
Thomas Oil Company Kern County, CA	$50x10^6$ Btu/h/steam generators and vapor recovery on wells	EPA RO IX

1.3

BACT

BACT/LAER CLEARINGHOUSE REPORT

(1.3)

SOURCE TYPE/SIZE: INDUSTRIAL BOILERS - COAL/OIL FIRED TWO 330×10^6 Btu/h

NAME/ADDRESS: HCC CHEMICAL COMPANY, 6100 OAK TREE BLVD., CLEVELAND, OH 44131

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 1/17/79

BY: (Agency) EPA REGION VI Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Coal/oil boilers (2)	330×10^6 Btu/hr	TSP	5.5 lb/h (B)	Multi-compartment baghouse,	99.7
(7/78) and (8/78)				continuous monitoring, single	
				alkali scrubber, continuous	
				flue gas O_2 control	
		SO_2	110.4 lb/h (B)	FGD single alkali scrubber	96
		NO_x	236.8 lb/h (B)	LEA controlled by FG. O_2	20-70
				control. Two stage combustion-	
				Low NO_x burners, continuous	
				NO_x monitoring. Single Alkali	
				FG scrubber	

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES:_____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture_____, Collection_____, Overall_____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; _____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT (1.3)

SOURCE TYPE/SIZE: INDUSTRIAL BOILERS - COAL/OIL FIRED TWO 330×10^6 Btu/h

NAME/ADDRESS: HCC CHEMICAL COMPANY, 6100 OAK TREE BLVD., CLEVELAND, OH 44131

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 1/17/79

BY: (Agency) EPA REGION VI Person_____ Phone_____

AFFECTED FACILITIES Coal/oil boilers (2)	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
(continued)		CO	19.7 lb/h (B)	FG Oxygen control	
Waste gas boiler (9/78)		TSP	2.17 lb/h (B)	Use of gaseous fuel, FG	
				oxygen control	
		NO_x	46 lb/h (B)	LEA firing and FG O_2 control,	
				2 stage combustion - low NO_x	
				boiler/burner design.	
		CO		FG O_2 control	
Coal Crusher (10/78)		TSP	2.15 lb/h (B)	Baghouse filters	99.7
Coal bunker (11/78)		TSP	.36 lb/h (B)	Baghouse filters	99.7
Ash handling		TSP	.23 lb/h (B)	Baghouse filters	99.7

SOURCE OPERATION: BATCH/CONTINUOUS:_____ hrs/yr; % by Season_____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES:_____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

(1.3)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: INDUSTRIAL BOILERS - COAL/OIL FIRED TWO 330×10^6 Btu/h

NAME/ADDRESS: HCC CHEMICAL COMPANY, 6100 OAK TREE BLVD., CLEVELAND, OH 44131

DETERMINATION DATA: CONDITIONAL (FINAL) PENDING for (BACT) LAER on (NEW) MODIFIED SOURCE

KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 1/17/79

BY: (Agency) EPA REGION VI Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Coal handling		Fugitive TSP	5.3 lb/h (B)	Shrouded Conveyors. Water spray at crusher dust collection at transfer points. Maintenance of separate active and inactive coal piles.	

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES:_____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture_____, Collection_____, Overall_____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT (1.3)

SOURCE TYPE/SIZE: BOILERS - COAL/REFUSE FIRED TWO 320×10^6 Btu/h each

NAME/ADDRESS: SOUTHEASTERN PUBLIC SERVICE AUTHORITY, NORFOLK, VIRGINIA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, (Final) 7/31/79

BY: (Agency) EPA REGION III Person Eileen M. Glen Phone (215) 597-8187

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Boilers (2)	209,778 RDF	(PM)	10.6 lb/h (46.5 TPY)(B)	Electrostatic precipitator	99.5
	1,608 Coal	(SO_2)	452 lb/h (1980 TPY) (B)		
	each boiler	(NO_x)	216 lb/h (936 TPY) (B)		
		(HC)	13.9 lb/h (60.9 TPY)(B)		
		(CO)	1624 lb/h (7113 TPY)(B)		

SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season W _____ Sp _____ Su _____ F _____

NOTES: Sulfur content of coal cannot exceed .85%

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT (1.3)

SOURCE TYPE/SIZE: COAL/BARK FIRED BOILER 500x10^6 Btu/h

NAME/ADDRESS: GEORGIA KRAFT COMPANY, MACON, GEORGIA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 11/79--

BY: (Agency) GEORGIA EPA, ATLANTA, GEORGIA Person LES OAKES Phone (404) 656-4867

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Combination boiler	500x10^6 Btu/h	(PM)	0.100 lb/10^6 Btu (N)	Venturi scrubber	99.0
		(SO_2)	1.2 lb/10^6 Btu (N)	pH control for scrubber	75.0
		(NO_x)	0.7 lb/10^6 Btu (N)	Boiler design	

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES:

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT (1.3)

SOURCE TYPE/SIZE: COAL/WOOD FIRED BOILERS

NAME/ADDRESS: JACK DANIEL DISTILLERY, LYNCHBURG, TN

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 8/11/78

BY: (Agency) EPA REGION IV Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Boiler No.1 Stoker	77./x10^6 Btu/h [a]	(PM)	.04 gr/dscf (B)	Mech collector	99
fired	66.x10^6 Btu/h [b]	Opacity	20% (B)	Baghouse	
Boiler No. 2	112.x10^6 Btu/h [a]			Mech collection	99
	96x10^6 Btu/h [b]			Baghouse	

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ W _____ Sp _____ Su _____ F

NOTES: Boilers designed to burn wood with coal as standby fuel

a Firing - distributor spouts on traveling grates

b Firing - spreader stoker on traveling grates

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture_____, Collection_____, Overall_____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

(1.3)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: BOILERS - REFUSE FIRED 400,000 lb/h STEAM

NAME/ADDRESS: NEW YORK STATE OFFICE OF GENERAL SERVICES, ALBANY, NEW YORK

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 6/5/79

BY: (Agency) EPA REGION II Person RICH CRAIG Phone 8-264-9628

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
RDF Fired Boilers	13.7 tons/h	(PM)	0.03 gr/dscp @ 12%CO_2	Electrostatic precipitator	99.4
		(SO_2)	2% Sulfur (S)	Low sulfur RDE	
		(CO)	(B)	[a]Good combustion	
		(NO_x)	(B)	[a]Good combustion (2)	
		(HC)			
		Lead		See b	

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ W _____ Sp _____ Su _____ F

NOTES: Source has capability to burn #2 oil when RDF unavailable.

[a] Furnace temperatures maintained between 1400° F and 1800° F and excess air between 40-50% by volume: when burning #2 oil excess air to be 15-20% by volume. [b] Source is restricted to burning only 219,000 tons of RDF/yr and to remove 90% of ferrous metals in order to keep allowable lead emissions below 50 tons/year.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT (1.3)

SOURCE TYPE/SIZE: NAPTHA GASIFICATION PLANT

NAME/ADDRESS: TRANSCO ENERGY COMPANY, CHESTER TOWNSHIP, PA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on NEW/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 4/14/78

BY: (Agency) EPA REGION III Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Fired heaters-1 stack		TSP	2.3 lb/h (B)		
		SO_2	10.8[a]/19.9 lb/h[b] (B)	Sulfur in fuel	
Hydrogen heaters		TSP	.9 lb/h		
(each stack)		SO_2	4.1[a]/7.6 lb/h[b] (B)	Sulfur in fuel	
Boilers - 1 stack	700×10^6 Btu/h	TSP	24.4 lb/h (B)		
		SO_2	1435[a]/265.1 lb/h[b] (B)	Sulfur in fuel	
Start-up heaters		TSP	24.3 lb/yr		
		SO_2	96.0 lb/yr		

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES: [a] = Annual average limit. [b] = 120 day average limit.
The emission limits specified are based on limiting the sulfur content in naptha to 900 ppmv or a yearly average and to 1500 ppmv on a 4 month average.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture_____, Collection_____, Overall_____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

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BACT/LAER CLEARINGHOUSE REPORT

(1.3)

SOURCE TYPE/SIZE: UTILITY BOILER - COAL/OIL/REFUSE FIRED 364 MW

NAME/ADDRESS: LAKELAND, FL UTILITIES

DETERMINATION IS: CONDITIONAL/FINAL/(PENDING) DATE OF ISSUE: _____ BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA, REGION IV _____ _____
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**		CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
			Fuel[a]	Limit		
Unit No. 3	3240x10^6 Btu/hr	Part.	C	.044 lb/10^6 Btu (B)	ESP	99.5
			C&R	.050 "		
			O	.070 "		
			O&R	.075 "		
		SO_2	1.2 lb/10^6 Btu (B)		Scrubber	80
		NO_x	O,C&R 0.7 lb/10^6Btu (B)			
			O,C&R 0.3 lb/10^6Btu (B)			

NOTES: C = Coal; O = Oil; R = Refuse
Unit is dry-bottom unit. Fired with pulverized coal, refuse, oil-fired.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT (1.3)

SOURCE TYPE/SIZE: INDUSTRIAL BOILER - COAL/OIL FIRED 498×10^6 Btu/hr

NAME/ADDRESS: FEDERAL PAPERBOARD COMPANY, RIEGELWOOD, N.C.

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 10/18/77 BASIS:* BACT[1]/LAER/(BACT[2])
FOR(NEW)/MODIFIED SOURCE

BY EPA REGION IV
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Bark and No.6 oil	498×10^6 Btu/hr	TSP	0.1 lb/10^6 Btu (B)	Multicyclone followed	99+
fired boiler				by Venturi	
		SO_2	0.8 lb/10^6 Btu (B)	Low S coal (1.5% S)	
				plus control by	
				Venturi	

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

(1.3)

SOURCE TYPE/SIZE: STEAM GENERATOR - BAGASSE FIRED

NAME/ADDRESS: LIHUE PLANTATION COMPANY, LIHUE, HI Site at Lihue, Hawii

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 1/25/79 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IX
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Bagasse-fired steam generator	336,400 lb/hr steam	TSP	90 lb/hr or 0.1 gr/dscf (B)	Multicyclone and wet scrubbing	

NOTES: Fuel oil limited to 10,590 lb/hr, fibrous fuel limited to $11{,}900 \times 10^6$ Btu/day
Sulfur content limited to 0.5% (monthly avg. basis)
Within 180 days of start-up, 9 existing boilers at can processing plant shall be shut down.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT - ADDITIONAL DETERMINATIONS - EXTERNAL COMBUSTION SOURCES 1.0
(COMBINATION AND OTHER - 1.3)

NAME - LOCATION	DESCRIPTORS	AGENCY
Simonson Lumber Company Smith River, CA	80,000 lb steam/h wood fired boilers	EPA RO IX
West Vaco Corporation Wickliffe, KY	634×10^6 Btu/h/bark/wood fired boilers	EPA RO IV
Paul Bunyan Lumber Company Anderson, CA	7.1 ton/h/wood fired boiler	EPA RO IX
Wisconsin Electric Power Company WI	1160 MW coal/oil fired	EPA RO V
Fieldcrest Mills, Inc. Eden, NC	5117 lb/h oil/4581 lb/h natural gas	EPA RO IV
Republic Steel Company Warren, OH	200×10^6 Btu/h/oil/BF gas	EPA RO V
Proctor and Gamble Company	216×10^6 Btu/h/wood/oil	State-GA
Diamond Shamrock Pasadena, TX	$3\text{-}246 \times 10^6$ Btu/h/gas	EPA RO VI
Hooker Energy Corp. Niagara Falls, NY	Two 50 ton/h each boilers/RDF fired	EPA RO II

1.3

LAER

BACT/LAER CLEARINGHOUSE REPORT

(1.3)

SOURCE TYPE/SIZE: POWER GENERATING (COMBINED CYCLE) 414 MW

NAME/ADDRESS: PACIFIC GAS AND ELECTRIC COMPANY, 1201 ILLINOIS STREET, SAN FRANCISCO, CA.

DETERMINATION DATA: CONDITIONAL/FINAL/(PENDING) for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 3/79, Completed _____, Determination-Proposed _____, Final _____

BY: (Agency) BAY AREA AIR POLLUTION CONTROL DIST. Person DAN GOALWIN Phone (415) 771-6000

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Combined Cycle Power	414 MW	(SO_2)	55 ppm (AIP)	less than 0.03% Sulfur in	
Plant			(N=150 ppm,	fuel oil or natural gas fuel	
			S=300 ppm)		
		(NO_x)	50 ppm (AIP)	Dry process and fuel of less	
			(N=75 ppm,	than 0.01% of fuel bound	
			S=175 ppm)	nitrogen	
		(PM)	0.05 gr/dscf (AIP)	Low ash fuels (less than	
			(S=0.15 gr/dscf)	10 ppm by weight)	
Storage tank	108,000 gal.	(HC)	(S)	Floating roof with double	
(No.2 oil)				seals	

SOURCE OPERATION: BATCH/CONTINUOUS: a hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: [a] Initial operation as peaking unit in single cycle operational mode of 1000 hours per year from July 81 to July 1982; combined cycle operation thereafter at a rate of 7000 hours/year (July 1982 to July 1987) and 4500 hours/year thereafter. Permit condition limits maximum operation to 7000 hours per year.

* Speci y pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital 8,000,000, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - (PM) CO (HC) (NO_x) (SO_2) OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd.[a]_____T/Y; Achieved[a]_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. [a] The Agency (BAAPCD) has set forth offset requirements for PM, HC, NO_x, SO_2 that vary according to both the operational mode of the unit (peaking on single cycle or base load on combined cycle) and the fuel used (oil or gas). Since the permit is pending and discussions still in progress the quantities of offsets required and achieved have not been firmly established. The applicant proposes to obtain the necessary offsets by (1) shutting down two existing oil/gas generating units and (2) obtaining additional HC offset through solvent type conversion and solvent recovery equipment installation at local commercial/industrial dry cleaning plants.

(1.3)

BAC./LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: COAL/OIL FIRED BOILER 65.5x10^6 Btu/h

NAME/ADDRESS: U.S. BUREAU OF MINES, BRUCETON, PA (Suburb of Pittsburgh)

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 3/78, Completed 5/78; Determination-Proposed 6/78, Final 9/78
BY: (Agency) ALLEGHENY COUNTY, PA Person DON GRAHAM Phone (412) 578-8115

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Coal/oil fired boiler (No.1) [a]	65.5x10^6 Btu/h	264 lb/h [b] (PM)	2.64 lb/h (S)	Fabric filter	99
		107 lb/h [b] (SO_2)	57 lb/h (S)	Fuel mixing	
			(0.87 lb/10^6 Btu/h		

SOURCE OPERATION: BATCH/(CONTINUOUS) 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: [a] Spreader stoker with traveling grate.
[b] Based on 100% coal firing of 10% ash coal with 50% ash carryover.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture 100, Collection 99, Overall 99 %

ACFM 23,840 at 330 °F System cost ($): Capital UKN, Operating UKN /Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode: Reverse air Fabric: Fiberglass ΔP = 6 in. H_2O;
Filter vel. (A/C) = 1.39 ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____
Micropul Model SR, 3 modules. Bags are teflon coated fiberglass

FUEL PARAMETERS: Type see "a" ; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/(SO_2)/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd. 63 T/Y; Achieved 89 T/Y

EXPLANATORY REMARKS, NOTES, ETC. Offset provided by shut-down of two other coal fired spreader stoker boilers.

[a] Two coals are used and blended to meet SO_2 requirement:

(1) 10.2% A, 1.6% S, 12,643 Btu/lb
(2) 4.1% A, 0.65% S, 12,870 Btu/lb

Permit constrains the use of higher sulfur (1.6%) coal to 2456 lb/h.

Oil used is No. 2 oil: .01% A, 0.40% S, 19,600 Btu/lb.

BACT/LAER CLEARINGHOUSE REPORT (1.3)

SOURCE TYPE/SIZE: CO-GENERATION PLANT 5.8 MW

NAME/ADDRESS: CITY OF SANTA CLARA, 570 ROBERT AVENUE, SANTA CLARA, CA 95050

DETERMINATION DATA: (CONDITIONAL)/FINAL/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 5/79, Completed _____, Determination-Proposed _____, Final 6/79

BY: (Agency) BAY AREA AIR POLLUTION CONTROL DIST. Person DAN GOALWIN Phone (415) 771-6000

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Gas turbine/generators	37.7×10^6 Btu.hr	16.4 lb/hr each (NO_x)	75 ppm NO_x at	Evaporative coolers on gas	20
natural gas fired - 2	each	32.8 lb/hr total	15% O_2	turbine intakes.	
units			(12.8 lb/hr each,		
			25.6 lb/hr total)		
Heat recovery steam	12×10^6 Btu/hr ea.	1.8 lb/hr each (NO_x)	1.8 lb/hr each	None	
generators - 2 units		3.6 lb/hr total	3.6 lb/hr total		

SOURCE OPERATION: BATCH/CONTINUOUS: 8400 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: Permit condition limits co-generation plant operation to 121 MW - Hours/day if supplemental firing practiced - otherwise not limited.

These are small size turbines and applicant stated there was no technology available for this size turbine. Applicant further states that use of evaporative coolers (on the ambient air inlet to the compressor-combustor-gas turbine units) is the first time this technology has been applied to such small units.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

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CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/(NO$_x$)/SO_2/OTHER_____

Off-set from (on)/off site; fugitive/(point source); Amount-reqd. 123 T/Y; Achieved 85- 224 T/Y

EXPLANATORY REMARKS, NOTES, ETC. Trade off accomplished by shutting down existing gas/oil fired boilers and limiting generating capacity (operating parameters) of new units to provide for net overall reduction of NO_x emissions.

BACT/LAER CLEARINGHOUSE REPORT (1.3)

SOURCE TYPE/SIZE: COAL/OIL/NG FIRED BOILER 120×10^6 Btu/h

NAME/ADDRESS: BELLEFIELD BOILER PLANT, 4400 FORBES AVENUE, PITTSBURGH, PA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 10/11/77 Completed 5/78 ; Determination-Proposed 6/78 , Final 9/78

BY: (Agency) ALLEGHENY COUNTY, PA Person DON GRAHAM Phone (412) 578-8115

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Coal/gas/oil fired	120×10^6 Btu/h	192 lb/h (PM)	12.6 lb/h (S)	Multiclone (90) and fuel	93.4
boiler				mixing (NG) - Overall	
		277 lb/h (SO_2)	86 lb/h (S)	Fuel mixing	

SOURCE OPERATION: BATCH/(CONTINUOUS) 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES:

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture 100, Collection 90, Overall 90 %

ACFM 47860 at 390 °F System cost ($): Capital ___ - ___, Operating ___ - ___/Year

(CYCLONES:) Type ___; Tubes: No. 96, D = 8 in., L = ___ ft; ΔP = 2.5 in. H_2O; Inlet Vel. = ___ ft/s;
Other: ___

ESP Type ___; Total plate area = ___ ft^2; SCA = ___ ft^2/1000 ACFM; L/W ratio = ___
Linear vel. = ___ ft/s; Other ___

FABRIC FILTER: Type ___ Cleaning Mode: ___ Fabric: ___ ΔP = ___ in. H_2O;
Filter vel. (A/C) = ___ ft/s; Other ___

SCRUBBER: Type ___; L/G = ___ gal/1000 ACFM; ΔP = ___ in. H_2O; Liquid used ___
Other: ___

AFTERBURNER: Temp. = ___ °F; Residence Time = ___ s; L/D: ___ Other: ___

OTHER TYPE CONTROLS/REMARKS/ETC. Western Precipitator Multiclone 9VM10T

FUEL PARAMETERS: Type see "a" below % A; ___ % S; HV ___ BTU/lb-gal-CF; Use Rate ___

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/(SO_2)/OTHER ___

Off-set from (on)/off site; fugitive/(point source); Amount-reqd. 362 T/Y; Achieved 377 T/Y

EXPLANATORY REMARKS, NOTES, ETC. ___

[a] Three fuels used: (1) Coal - 8% A, 1.6% S, 12,500 Btu/lb
(2) No. 2 oil - 0.01% A, 0.3% S, 19600 Btu/lb
(3) NG - 1002 Btu/ft^3

BACT/LAER CLEARINGHOUSE REPORT (1.3)

SOURCE TYPE/SIZE: INDUSTRIAL BOILER 263x10^6 Btu/hr

NAME/ADDRESS: MEAD CORPORATION, STEVENSON, AL

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 8/29/78 BASIS:* BACT[1]/(LAER)/BACT[2]
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IV
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Wood waste boiler	263x10^6 Btu/hr	TSP	0.0375 gr/dscf	Multiple cyclones	98.5
			at 50% excess air (B)	followed by a high	
				energy wet scrubber	
		NO_x	0.7 lb/10^6 Btu (B)	conservative heat	
				release design and	
				monitor	

NOTES: Offset occurs by the shut down of existing oil fired boiler.

* Circle one. BACT-1 irdicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

LAER - ADDITIONAL DETERMINATIONS - EXTERNAL COMBUSTION 1.0
(COMBINATION AND OTHER - 1.3)

NAME - LOCATION	DESCRIPTORS	AGENCY
Fletcher Oil/Refining Company Carson, CA	48.5×10^6 Btu/h - refinery gas fired	Local- SCAQMD

2.0 SOLID WASTE DISPOSAL

2.1 Refuse incineration (liquid, solid)

2.2 Sewage sludge incineration

2.3 Other (auto body, pathological, etc.)

2.1

BACT

BACT/LAER CLEARINGHOUSE REPORT (2.1)

SOURCE TYPE/SIZE: SOLID WASTE DISPOSAL 250 ton/day

NAME/ADDRESS: GLEN COVE COMPANY, GLEN COVE, NY

DETERMINATION IS: CONDITIONAL/FINAL/(PENDING) DATE OF ISSUE: _____ BASIS:* BACT[1]/LAER/(BACT[2])
FOR(NEW)/MODIFIED SOURCE

BY EPA REGION II (Agency) Mike Davis (Person) 8-264-9578 (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION	
				Equipment type, etc.	Eff.,%
Incinerator	250 ton/day	PM	0.05 gr/dscf at 12%	ESP	97
			CO_2 and 20% opacity	(1) No controls required	
Incinerator	250 ton/day	SO_2		(2) Combustion parameters	
Incinerator	250 ton/day	NO_x		(3) Combustion parameters	
Incinerator	250 ton/day	CO	< 1000 ppm		

NOTES: (1) SO_2 concentration too low to effectively use FGD devices.

(2) Excess air 120%, combustion temperature - 1000° F.

(3) Heat release rate - 1400 Btu/hr/ft^3 - combined temperature between 1600°F-1800°F - O_2 between 10-12%.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

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BACT/LAER CLEARINGHOUSE REPORT (2.1)

SOURCE TYPE/SIZE: LIQUID WASTE BURNER 1.09 tons/hour

NAME/ADDRESS: L.W.D.,INC., CLAY, KY Plant site - Calvert City, KY

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 8/18/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IV
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Waste Burner	109 tons/hr	TSP	0.2 gr/dscf (S)	Plenum chamber, Venturi	99
				scrubber and packed	
				scrubber	

NOTES: Conditions - unit shall operate with the complete control equipment in operating phase when any waste is being processed - 2185 lbs/hr maximum weight of liquid waste to be burned.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT - ADDITIONAL DETERMINATIONS - SOLID WASTE DISPOSAL 2.0
(REFUSE INCINERATION [LIQUID, SOLID]) - 2.1

NAME - LOCATION	DESCRIPTORS	AGENCY
Environmental Resources Management Dade County, FL	Resource recovery/3000 ton/day	EPA RO IV

2.1

LAER

BACT/LAER CLEARINGHOUSE REPORT (2.1)

SOURCE TYPE/SIZE: SOLID REFUSE BOILERS FOUR - 48×10^6 BTU/HR EACH

NAME/ADDRESS: NATIONAL ENERGY CORPORATION/4415 S. PACKER AVENUE, CHICAGO, ILLINOIS

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 4-11-79

BY: (Agency) EPA REGION V Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Refuse fired boilers(4)	48×10^6 Btu/h each	PM	0.006 gr/dscf	Fabric filter	90
	500 tons/day	PM	0% opacity from build-		
			ing		
			5% opacity from ash		
			handling		

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ _____ _____ _____
W Sp Su F

NOTES:_____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture_____, Collection_____, Overall_____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ____in. H_2O; Inlet Vel. = ____ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

LAER - ADDITIONAL DETERMINATIONS - SOLID WASTE DISPOSAL 2.0
(REFUSE INCINERATION [LIQUID, SOLID] - 2.1)

NAME - LOCATION	DESCRIPTORS	AGENCY

2.2

BACT

BACT/LAER CLEARINGHOUSE REPORT

(2.2)

SOURCE TYPE/SIZE: SLUDGE INCINERATOR 7800 lb/h

NAME/ADDRESS: HUNTINGTON, W. VA.

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 6/21/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION III
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Incinerator	7800 lb/hr	TSP	1.6 lb/ton dry sludge	Venturi scrubber with	99
	wet sludge		.93 lb/hr (N)	pressure drop of 20"	
				water	

NOTES: This is a PSD source. Since controlled emissions of particulate will be less than 50 ton/yr no modeling for PSD is necessary, only a BACT determination.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

(2.2)

SOURCE TYPE/SIZE: MULTIPLE HEARTH SLUDGE INCINERATORS (TWO) 5400 LB/4 HR/DAY EACH

NAME/ADDRESS: DEPARTMENT OF PUBLIC SERVICE, COLUMBUS, OHIO (SOUTHERLY WASTE TREATMENT PLANT)

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 7/11/78, Completed 8/18/78; Determination-Proposed _____, Final _____
BY: (Agency) OHIO ENVIRONMENTAL PROTECTION AGENCY Person Robert Hodanbosi Phone (614) 466-6116

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Sludge Incinerators (2	5400 lb/hr (dry)				
	each	(PM) 100 lb/ton [a]	1.3 lb/ton (B)	Spray chamber followed by	
		(SO_2) 1 lb/ton	0.8 lb/ton (B)	Venturi Scrubber followed by	
		(NO_x) 6 lb/ton	5 lb/ton (B)	Impingement scrubber	
		(HC) 1.5 lb/ton	1 lb/ton (B)	Overall efficiency	98.5
		(HCL) 1.5 lb/ton	0.3 lb/ton (B)	Continuous opacity monitor	
				also required	

78

SOURCE OPERATION: BATCH/(CONTINUOUS) 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: Two sludge incinerators (#3 and #4) were covered by this application. Each had a 5400 lb/h capacity.

[a] Per AP-42 emission factors, § 2.5-2, Table 2.5-1

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture 100, Collection 98.5, Overall 98.5 %

ACFM 12,000 at 120 °F ? System cost ($): Capital _____, Operating _____/Year

CYCLONES: Type _____; Tubes: No. _____, D = _____ in., L = _____ ft; ΔP = ___ in. H_2O; Inlet Vel. = ___ ft/s

Other: _____

ESP Type _____; Total plate area = _____ ft^2; SCA = _____ ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ ft/s; Other _____

FABRIC FILTER: Type _____ Cleaning Mode: _____ Fabric: _____ ΔP = _____ in. H_2O;

Filter vel. (A/C) = _____ ft/s; Other _____

SCRUBBER: Type Venturi ; L/G = _____ gal/1000 ACFM; ΔP = 25 in. H_2O; Liquid used water

Other: Venturi preceded by spray chamber and followed by impingement scrubber (3 tray, 6" each)

AFTERBURNER: Temp. = _____ °F; Residence Time = _____ s; L/D: _____ Other: _____

OTHER TYPE CONTROLS/REMARKS/ETC. _____

FUEL PARAMETERS: Type _____; ____ % A; _____ % S; HV _____ BTU/lb-gal-CF; Use Rate _____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	% <	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER _____

Off-set from on/off site; fugitive/point source; Amount-reqd. _____ T/Y; Achieved _____ T/

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT - ADDITIONAL DETERMINATIONS - SOLID WASTE DISPOSAL 2.0
(SEWAGE SLUDGE INCINERATION - 2.2)

NAME -. LOCATION	DESCRIPTORS	AGENCY

2.2

LAER

LAER - ADDITIONAL DETERMINATIONS - SOLID WASTE DISPOSAL 2.0
(SEWAGE SLUDGE INCINERATION - 2.2)

NAME - LOCATION	DESCRIPTORS	AGENCY

2.3

BACT

BACT - ADDITIONAL DETERMINATIONS - SOLID WASTE DISPOSAL 2.0
(OTHER [AUTO BODY, PATHOLOGICAL, ETC.]) - 2.3

NAME - LOCATION	DESCRIPTORS	AGENCY

2.3

LAER

LAER - ADDITIONAL DETERMINATIONS - SOLID WASTE DISPOSAL 2.0
(OTHER [AUTO BODY, PATHOLOGICAL, ETC.] - 2.3)

NAME - LOCATION	DESCRIPTORS	AGENCY

3.0 INTERNAL COMBUSTION

3.0

BACT

BACT/LAER CLEARINGHOUSE REPORT (3.0)

SOURCE TYPE/SIZE: COMPRESSOR STATION 4,750 hp/h

NAME/ADDRESS: UNITED GAS PIPE LINE: CARTHAGE COMPRESSOR STATION: CARTHAGE, PANOLA COUNTY, TX

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on NEW/(MODIFIED) SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final_____

BY: (Agency) EPA REGION VI Person MR. JOHN BUNYAK Phone (214) 767-2742

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE*, -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Compressor	1000 hp	NO_x	26.4 lb/h (B)	See notes	
Compressor	750 hp	NO_x	23.5 lb/h (B)	See notes	
Compressor	1000 hp	NO_x	31.4 lb/h (B)	See notes	
Compressor	1000 hp	NO_x	31.4 lb/h (B)	See notes	
Compressor	1000 hp	NO_x	31.4 lb/h (B)	See notes	

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ W _____ Sp _____ Su _____ F

NOTES: BACT consists of: (1) Adjusting engine operating parameters to meet NO_x emission limits along with testing the air/fuel ratio or NO_x emissions once from each engine to ensure NO_x emission compliance; (2) adjusting and operating engine parameters in order to maintain minimum NO_x emissions and (3) either adjusting air/fuel ratio or testing for NO_x once per month to ensure NO_x compliance.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

06

BACT/LAER CLEARINGHOUSE REPORT (3.0)

SOURCE TYPE/SIZE: NATURAL GAS COMPRESSOR STATION 23,000 hp

NAME/ADDRESS: TENNESSEE GAS PIPELINE, P.O. BOX 2511, HOUSTON, TEXAS 77001

DETERMINATION IS: (CONDITIONAL) FINAL/PENDING: DATE OF ISSUE: 1/26/79 BASIS:* BACT[1] /LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION VI
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
General Electric	2 billion cubic	Nitrogen oxides	39.0 lb/hr (B)	Water Injection:	47.2
11,500 horsepower	feet per day ea.	(NO_x)	for each turbine	monitored water/fuel	
regenerative turbine				ratio and consumption	
gas compressors (2)				rates	
Electric generator		Nitrogen oxides	3.64 lb/hr (B)	controlled parameters	
with 150 HP gas		(NO_x)		for ignition timing	
engine				and fuel/air ratio	
				rates	

NOTES: Use of the electric generator is limited to 1 hr per week for maintenance.
Continuous operation will be permitted only in the event of outside power failure.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT - ADDITIONAL DETERMINATIONS - INTERNAL COMBUSTION 3.0

NAME - LOCATION	DESCRIPTORS	AGENCY
Tennessee Gas Pipeline Houston, TX	11,500 HP/gas turbine	EPA RO VI
Texas Eastman Company Longview, TX	Compressors	EPA RO VI
AMOCO, Hastings plant Alvin, TX	1000 HP compressors (5)	EPA RO VI
NG Pipeline Company of America Chicago,	7250 HP compressor	EPA RO V
United Gas Pipeline Natchitoches Parish, LA	3500 HP compressors (3)	EPA RO VI

3.0

LAER

LAER - ADDITIONAL DETERMINATIONS - INTERNAL COMBUSTION 3.0

NAME - LOCATION	DESCRIPTORS	AGENCY

4.0 EVAPORATIVE LOSS

- 4.1 Surface coating
- 4.2 Petroleum liquids storage
- 4.3 Transportation and marketing of petroleum liquids
- 4.4 Graphic Arts and Other

4.1

BACT

BACT/LAER CLEARINGHOUSE REPORT

(4.1)

SOURCE TYPE/SIZE: WIRE ENAMELING OVENS

NAME/ADDRESS: PHELPS DODGE MAGNETIC WIRE COMPANY, HOPKINSVILLE, KY

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 11/17/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IV
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION	
				Equipment type, etc.	Eff.,%
Wire enameling ovens (7)	47.1 lb/hr each	VOC	8 lb/hr (B)	dual incineration	≥ 90

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

(4.1)

SOURCE TYPE/SIZE: UREA SURFACE COATING 60 TONS/HOUR

NAME/ADDRESS: AG INDUSTRIES, COLUMBIA, ALABAMA

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 10/18/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR(NEW)/MODIFIED SOURCE

BY EPA REGION IV (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Surface Coating	60 tons/hr	TSP	5.9 lb/hr (B)	Two scrubbers, two cyclones and a baghouse	99.9
Urea Unloading		TSP		Controls on hours of operation	
Rail car loading					
Boiler					

NOTES: Area coating operations must be limited to $\leq$ 8400 hr/yr, unloading must be limited $\leq$ 2000 hrs/yr, rail car loading must be limited to $\leq$ 4000 hrs/yr, boiler operations must be limited to $\leq$ 8400 hrs/yr. A record of these hours must be recorded in a form suitable for inspection.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

(4.1)

SOURCE TYPE/SIZE: RIBBON COATING 1300 FT/MIN

NAME/ADDRESS: IBM LEXINGTON, KY

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 7/21/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR(NEW)/MODIFIED SOURCE

BY EPA REGION IV
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Ribbon Coaters (new) (2)	500 ft/min each	HC	9.23 lb/hr (L)	Hooding and carbon ad-	95
				sorption	
Solvent Recovery		HC	5.2 lb/hr (L)	None	
System (New)					
Coater (modification)		HC	28.4 lb/hr (L)	Not given	88
Emission Reduction		HC	17.9 lb/hr (L)	2 incinerators and waste	70
required on three coaters			(reduction of 281.6	heat boiler	
(added controls)			ton/year)		

NOTES: Conditions (1) Maximum usage of mixed ink including organic solvents not to exceed 584 lb/hr and 1889 tons/yr; (2) Hours of operation shall not exceed 21.5 hr/day, 301 days/yr. Hours of operation for process B shall not exceed 3517 hrs/yr.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT - ADDITIONAL DETERMINATIONS - EVAPORATIVE LOSS 4.0
(SURFACE COATING - 4.1)

NAME - LOCATION	DESCRIPTORS	AGENCY
Liberty Furniture Liberty, NC	Spray coating/600 gpd	EPA RO IV

4.1

LAER

(4.1)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: AUTO ASSEMBLY PLANT 800 CARS PER DAY

NAME/ADDRESS: GENERAL MOTORS ASSEMBLY DIVISION, SOUTH GATE PLANT, SOUTH GATE, CA 90280

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on NEW/(MODIFIED) SOURCE
KEY DATES: Application-Recd 10/5/79, Completed 10/5/79; Determination-Proposed _____, Final 3/3/80

BY: (Agency) SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, CA Person GENE HOCKMAN Phone (213) 72-6213

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Urethane spray booths	33 gal/day	412.74 lb/day (HC)	(A)	Water wash on exhaust, water	97.5
(6)	(total)	(total controlled)		base coatings (80% water),	
		12.6 lb/day (PM)		non-photochemically reactive	
				solvents	
Wheel spray booth	29 gal/day	51.6 lb/day (HC)	(A)	Water wash on exhaust, water	97.5
		1.8 lb/day (PM)		base coatings (80% water),	
				non-photochemically reactive	
				solvents	

SOURCE OPERATION: BATCH/(CONTINUOUS): 4000 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: _____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

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CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ____in. H_2O; Inlet Vel. = ____ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE (CONTROLS)/REMARKS/ETC. Water curtain - 900 gal/min for each booth.

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV 1060 BTU/lb-gal (CF) Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - (PM)/CO/(HC)/NO_x/SO_2/OTHER_____

Off-set from (on)/off site; fugitive/(point) source; Amount-reqd. 278 (HC) 13 (PM) T/Y; Achieved 311 (HC) 14 (PM) T/Y

EXPLANATORY REMARKS, NOTES, ETC. Retiring 6 spray booths, 2 ovens, 2 hoods and 1 dip tank.

(4.1)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: AUTO ASSEMBLY PLANT 800 CARS PER DAY

NAME/ADDRESS: GENERAL MOTORS ASSEMBLY DIVISION, SOUTH GATE PLANT/SOUTH GATE, CA 90280

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on NEW/(MODIFIED) SOURCE
KEY DATES: Application-Recd. 10/5/79, Completed 10/5/79 ; Determination-Proposed _____, Final 3/3/80

BY: (Agency) SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, CA Person GENE HOCKMAN Phone (213) 572-6213

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Wheel oven		(Included in spray booth) (HC)	(A)	Operation limited to 400°F max. temp.	
Urethane ovens (2)	180 gal/day	(Included under urethane spray booths) (HC)	(A)	Incinerator Operation limited to 180 gal/day	79
Small parts spray booth	81 gal/day	4972.78 lbs/day (HC) (controlled)	(A)	Water wash on exhaust non-photochemically reactive solvents	97.5
		2.45 lbs/day (PM)			

SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season _____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES: _____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

(AFTERBURNER) Temp. = 1450 °F; Residence Time = 0.505 s; L/D: 1.6 Other: Direct gas-fired; controls 2 ovens

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

(4.1)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: AUTO ASSEMBLY PLANT 800 CARS PER DAY

NAME/ADDRESS: GENERAL MOTORS ASSEMBLY DIVISION, SOUTH GATE PLANT/ SOUTH GATE, CA 90280

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on NEW/(MODIFIED) SOURCE
KEY DATES: Application-Recd. 10/5/79, Completed 10/5/79; Determination-Proposed _____, Final 3/3/80

BY: (Agency) SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, CA Person GENE HOCKMAN Phone (213) 572-6213

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE,* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Small parts oven		(Included in spray booth figure) (HC)		Limited to 180°F max. temp.	
Repair spray hood (Line #3)	36 gal/day	233.1 lb/day (HC) 1.0 lb/day (PM)	(A)	Non-photochemically reactive solvents	
#3 Top coat spray booth	335 gal/day	529.1 lb/day (HC) 20.6 lb/day (PM)	(A)	Water wash on exhaust non-photochemically reactive solvents	97.5

SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season W _____ Sp _____ Su _____ F _____

NOTES: _____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

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CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

(4.1)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: AUTO ASSEMBLY PLANT 800 CARS PER DAY

NAME/ADDRESS: GENERAL MOTORS ASSEMBLY DIVISION, SOUTH GATE PLANT/SOUTH GATE, CA 90280

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on NEW/(MODIFIED) SOURCE
KEY DATES: Application-Recd. 10/5/79, Completed 10/5/79; Determination-Proposed _____, Final 3/3/80
BY: (Agency) SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, CA Person GENE HOCKMAN Phone (213) 572-6213

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Underbody spray booth	223 gal/day	511.39 lb/day (HC)	(A)	Non-photochemically reactive	
				solvents	
		63.1 lb/day (PM)		Filters	
Wax coat spray booth	33 gal/day	133.3 lb/day (HC)		Non-photochemically reactive	
		2.8 lb/day (PM)		solvents and water wash on	
				exhaust	97.5

SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season _____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES: _____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE (CONTROLS) REMARKS/ETC. Spray booth filters for particulate control to be 2 inches and with ≤0.25 inch H_2O maximum pressure drop.

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

(4.1)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: AUTO ASSEMBLY PLANT 800 CARS PER DAY

NAME/ADDRESS: GENERAL MOTORS ASSEMBLY DIVISION, SOUTH GATE/SOUTH GATE, CA 90280

DETERMINATION DATA: CONDITIONAL (FINAL) / PENDING for BACT (LAER) on NEW (MODIFIED) SOURCE

KEY DATES: Application-Recd. 10/5/79, Completed 10/5/79; Determination-Proposed _____, Final 3/3/80

BY: (Agency) SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, CA Person GENE HOCKMAN Phone (213) 572-6213

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Urethane repair oven	2.25 gal/day	1.7 lb/day (HC)		Limited to 300°F max. temp.	
No. 2		1.92 lb/day (NO_x)			
Urethane repair oven	2.25 gal/day	1.7 lb/day (HC)		Limited to 300°F max. temp.	
No. 1		1.92 lb/day (NO_x)			

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SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season _____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES: _____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ____in. H_2O; Inlet Vel. = ____ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

BACT/LAER CLEARINGHOUSE REPORT

(4.1)

SOURCE TYPE/SIZE: COIL COATING 72" CONTINUOUS ROLLER COAT LINE

NAME/ADDRESS: PRE FINISH METALS, INC. WOOD COUNTY, (NEAR TOLEDO) OHIO

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 3/78, Completed 11/78; Determination-Proposed 2/79, Final 5/79

BY: (Agency) OHIO ENVIRONMENTAL PROTECTION AGENCY Person ROBERT HODANBOSI Phone (614) 466-6116

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
72" coal coating line	3.4×10^6 gal of	2250 lb/h (HC)	37 lb/h (A)	Controlled zone combustion	98.5
	paint per yr	(8326 ton/yr)	(125 ton/yr)	in curing oven (50%) followed	
				by afterburner (97%)	
Storage tanks (10)	30,000 gal (3)	1.1 ton/yr (HC)	1.1 ton/yr (S)	Submerged fill required	
	4,000 gal (5)				
	6,000 gal (2)				
Cleanup materials	14,600 gal/yr	10.8 ton/yr (HC)	10.8 ton/yr		

SOURCE OPERATION: BATCH/(CONTINUOUS) 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES:

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall 98.5 %

ACFM_____at _____°F System cost ($): Capital 2,300,000, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

(AFTERBURNER): Temp. = 1400 °F; Residence Time = 0.8 s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC. The curing oven is special design to achieve zone combustion (4 zones) that consume approximately 50% of solvent (HC) as fuel for oven section heat. The afterburner section follows the oven and consumes the other 50% as fuel. Design is unique, recently developed by a cooperative project - National Coil Coaters Association/US Energy and Development Administration. A waste heat exchanger follows for purposes of steam and oven section heat generation.

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/(HC)/NO_x/SO_2/OTHER_____

Off-set from on/(off site) (fugitive)/point source; Amount-reqd. 137 T/Y; Achieved 165 T/Y

EXPLANATORY REMARKS, NOTES, ETC. HC offset attained by reduction in use of "cutback" asphalts in Wood, Sandusky and Ottawa Counties. The Ohio Department of Transportation will require substitution of emulsified asphalt for cut-back asphalt in the amount of 892 tons/yr resulting in a 165 ton/yr reduction in VOC emissions.

BACT/LAER CLEARINGHOUSE REPORT (4.1)

SOURCE TYPE/SIZE: WIRE ENAMELING AND DRYING

NAME/ADDRESS: ANACONDA WIRE AND CABLE COMPANY, LAGRANGE PLANT, LAGRANGE, KY

DETERMINATION DATA: CONDITIONAL/[FINAL]/PENDING for BACT/(LAER) on NEW/(MODIFIED) SOURCE
KEY DATES: Application-Recd. 3/20/79, Completed 5/1/79; Determination-Proposed 7/2/79, Final 8/24/79
BY: (Agency) KY. DIV. OF AIR POLLUTION CONTROL Person SAMUEL H. BRUNTZ Phone

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Wire enameling	48 gal/h solvent	255.4 lb/h (HC)	50 t/y (B)	Thermal incinerator	95.4
ovens (6)	(total for 6			and internal catalyst	
	ovens)				

SOURCE OPERATION: BATCH/(CONTINUOUS) 8,680 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES:

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture 97.5, Collection 97, Overall 94.6 %

ACFM _____ at 1292 °F System cost ($): Capital $245,000, Operating $63,560 /Year

CYCLONES: Type _____; Tubes: No. _____, D = _____ in., L = _____ ft; ΔP = ____ in. H_2O; Inlet Vel. = ____ ft/s;
Other: _____

ESP Type _____; Total plate area = _____ ft^2; SCA = _____ ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ ft/s; Other _____

FABRIC FILTER: Type _____ Cleaning Mode: _____ Fabric: _____ ΔP = _____ in. H_2O;
Filter vel. (A/C) = _____ ft/s; Other _____

SCRUBBER: Type _____; L/G = _____ gal/1000 ACFM; ΔP = ____ in. H_2O; Liquid used _____
Other: _____

(AFTERBURNER): Temp. = 1292 °F; Residence Time = 0.2 s; L/D: 5.44 Other: MOCO Model RTP
(Michigan Oven Company)

OTHER TYPE CONTROLS/REMARKS/ETC. _____

FUEL PARAMETERS: Type Nat.gas; 0 % A; 0 % S; HV 1000 BTU/lb-gal (CF); Use Rate 1,500,000 Btu/h

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/(HC)/NO_x/SO_2/OTHER _____

Off-set from on/off site; fugitive/point source; Amount-reqd. _____ T/Y; Achieved _____ T/Y

EXPLANATORY REMARKS, NOTES, ETC. No offset based on agreement by Anaconda to limit VOC emissions from all facilities constructed after December 21, 1976 to not more than 50 t/y. This would involve control of 1 existing coating line also.

BACT/LAER CLEARINGHOUSE REPORT (4.1)

SOURCE TYPE/SIZE: PAPER COATING

NAME/ADDRESS: CROWN ZELLERBACK CORPORATION, FLORENCE, KY

DETERMINATION DATA: CONDITIONAL/FINAL (PENDING) for BACT/(LAER) on NEW/(MODIFIED) SOURCE
KEY DATES: Application-Recd. 5/4/79, Completed 6/14/79; Determination-Proposed 8/20/79, Final _____
BY: (Agency) KY. DIV. OF AIR POLLUTION CONTROL Person PRADEEP KULKARNI Phone _____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Electrographic coater	4800 lb/h	2400 lb/h (HC)	96 lb/h (B)	Carbon adsorption	96
(solvent-based)	of solvent				
(2 lines)	(2 lines)				

SOURCE OPERATION: BATCH/(CONTINUOUS) 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: _____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture 98, Collection 98, Overall 96 %

ACFM 80,500 at 200 °F System cost ($): Capital 3,100,000, Operating $1,206,000 /Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS REMARKS/ETC. Union Carbide -PURASIV HR System
7 adsorber trays
110-170 °F operating temperature
340-390 °F temperature for desorber
600-1200 scfm desorber stripping gas flow
0.10 - 0.15 lb VOC/lb carbon adsorbtion rate

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/(HC)/NO_x/SO_2/OTHER_____

Off-set from (on) off site; fugitive/(point source) Amount-reqd. 419.3 T/Y; Achieved 441.3 T/Y

EXPLANATORY REMARKS, NOTES, ETC. Solvent recovery from an existing line (400 lb/h of solvent) will be enhanced from 85 to 96% by routing through new adsorber. Emissions will be reduced from 524 t/y to 82.7 t/y.

BACT/LAER CLEARINGHOUSE REPORT (4.1)

SOURCE TYPE/SIZE: FILM COATING

NAME/ADDRESS: REXHAM CORPORATION, SITE AT LANCASTER, SC

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 9/24/79

BY: (Agency) SC BUREAU OF AIR QUALITY CONTROL Person OTTO PEARSON Phone (803) 758-5406

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE,* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Printing Presses (2)	3190 lb/h	VOC	280 ton/yr (L)	Thermal incinerator	95
Coater/laminator (2)	1832 lb/h	VOC	88 ton/yr (L)	Thermal incinerator	95
machines					
Solvent storage tanks	16 tanks at 6000	VOC	25 ton/yr (L)	Conservation vent followed	99
	gallon each.			by activated carbon absorber	
	(18,000,000 gal/yr)				
Waste solvent storage	5000 gal	VOC		Conservation vent and acti-	99
tank	(72,000 gal/yr)			vated carbon absorber	

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES: 1. Emission limits do not include fugitive emissions which are limited to 2% of uncontrolled rate.
2. Emission offset of 572 ton/yr provided by existing Rexham plant.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

BACT/LAER CLEARINGHOUSE REPORT

(4.1)

SOURCE TYPE/SIZE: SURFACE COATING

NAME/ADDRESS: WESTINGHOUSE ELECTRIC CORPORATION, PENDLETON, SC

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on NEW/(MODIFIED) SOURCE
KEY DATES: Application-Recd._____, Completed_____, Determination-Proposed_____, Final 2/4/80
BY: (Agency) SC BUREAU OF AIR QUALITY CONTROL Person OTTO E. PEARSON Phone (803) 758-5406

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE*-UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Melamine Treater (1)	306 lb/h resin	VOC		Incinerator/wasteheat boiler	93
Phenolic Treater (1)	1275 lb/h resin	VOC	44.9 ton/yr (L)		
Epoxy Treater (4)	1124 lb/h resin	VOC		Incinerator/wasteheat boiler	93
Melamine Treater (1)	306 lb/h resin	VOC	104.9 ton/yr (L)		
#2 oil storage tank	900 gal/h	VOC			
Formaldehyde tank	75,000 gal/mo	VOC			
Formaldehyde tank	75,000 gal/mo	VOC	0.09 ton/yr (L)	Carbon adsorber on each	93
Methyl cellosolve tank	26,000 gal/mo	VOC		storage tank	
Methanol tank	18,000 gal/mo	VOC			
Isopropyl alcohol tank	2,000 gal/mo	VOC			

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ _____ _____ _____
W Sp Su F

NOTES:

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

LAER - ADDITIONAL DETERMINATIONS - EVAPORATIVE LOSS 4.0
(SURFACE COATING - 4.1)

NAME - LOCATION	DESCRIPTORS	AGENCY
General Motors Corp. Shreveport, LA	Truck/Van Assembly - water base painting - 281,000 units/yr.	State-LA
Westinghouse Electric Corp. Hampton, SC	Paper treater - 420 lb/h 90% incineration	State-SC
Volkswagen Mfg. Corp-America New Stanton, PA	66 units/h	EPA RO III

4.2

BACT

BACT/LAER CLEARINGHOUSE REPORT

(4.2)

SOURCE TYPE/SIZE: PETROLEUM REFINERY

NAME/ADDRESS: CIBRO PETROLEUM PRODUCTS CORPORATION, ALBANY, NY

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 9/27/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION II
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION	
				Equipment type, etc.	Eff.,%
Petroleum storage tanks		HC	No numerical limit (B)	Double seal floating roofs	95
Process relief valves		HC	No numerical limit (B)	Flare	
API separators		HC	No numerical limit (B)	Enclosures	
Pumps and compressors		HC	No numerical limit (B)	Mechanical seals	

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

4.2

SOURCE TYPE/SIZE: PETROLEUM LIQUIDS STORAGE TERMINAL

NAME/ADDRESS: SCURRY OIL COMPANY, ARKANSAS PASS, TX

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 4/5/79, Completed 4/30/79; Determination-Proposed 5/10/79, Final 6/27/79

BY: (Agency) TEXAS AIR POLLUTION CONTROL BOARD Person T.P. Suffredini Phone (512) 451-5711

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Fixed Roof Tanks (12)	16750 bbl	(HC) 36.9 ton/yr	(HC) 1.9 ton/yr (A)	Spray absorber scrubber	95

125

SOURCE OPERATION: BATCH/(CONTINUOUS) 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: Tanks store non-sulfur bearing liquids (crude oil).
Fugitive HC emissions from valves, flanges and pump seals limited to 0.3 ton/yr

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture 100, Collection 95, Overall 95 %

ACFM _____ at _____ °F System cost ($): Capital 3,500.00, Operating _____/Year

CYCLONES: Type _____; Tubes: No. _____, D = _____ in., L = _____ ft; ΔP = ___ in. H_2O; Inlet Vel. = ___ ft/s;
Other: _____

ESP: Type _____; Total plate area = _____ ft^2; SCA = _____ ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ ft/s; Other _____

FABRIC FILTER: Type _____ Cleaning Mode: _____ Fabric: _____ ΔP = _____ in. H_2O;
Filter vel. (A/C) = _____ ft/s; Other _____

(SCRUBBER): Type Spray absorber; L/G = _____ gal/1000 ACFM; ΔP = ____ in. H_2O; Liquid used diesel fuel
Other: Countercurrent flow of vapors (bottom) through diesel spray (top).

AFTERBURNER: Temp. = _____ °F; Residence Time = _____ s; L/D: _____ Other: _____

OTHER TYPE CONTROLS/REMARKS/ETC. Vapor recovery system consists of vapor collection system, a scrubber using diesel liquid and a diesel storage tank. System supplied by Ecology Control, Inc. of Houston, TX

FUEL PARAMETERS: Type _____; ____ % A; _____ % S; HV _____ BTU/lb-gal-CF; Use Rate _____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER _____

Off-set from on/off site; fugitive/point source; Amount-reqd. _____ T/Y; Achieved _____ T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT - ADDITIONAL DETERMINATIONS - EVAPORATIVE LOSS 4.0
(PETROLEUM LIQUIDS STORAGE - 4.2)

NAME - LOCATION	DESCRIPTORS	AGENCY
Sohio Transportation Company Midland County, TX	500,000 bbl storage tanks (4)	EPA RO VI
Transgulf Pipeline Company Lucedale, MS	1.69×10^6 bbls	EPA RO IV

4.2

LAER

LAER - ADDITIONAL DETERMINATIONS - EVAPORATIVE LOSS 4.0
(PETROLEUM LIQUIDS STORAGE - 4.2)

NAME - LOCATION	DESCRIPTORS	AGENCY
Amerada Hess Corp, Marreco, LA	300,000 bbl (3)	State-LA

4.3

BACT

BACT - ADDITIONAL DETERMINATIONS - EVAPORATIVE LOSS 4.0
(TRANSPORTATION AND MARKETING OF PETROLEUM LIQUIDS - 4.3)

NAME - LOCATION	DESCRIPTORS	AGENCY

4.3

LAER

BACT/LAER CLEARINGHOUSE REPORT (4.3)

SOURCE TYPE/SIZE: RAILCAR AND BARGE LOADING FACILITY

NAME/ADDRESS: CORPUS CHRISTI PETROLEUM COMPANY, CORPUS CHRISTI, TX

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 8/4/77, Completed ____; Determination-Proposed ____, Final 2/10/78

BY: (Agency) TEXAS AIR POLLUTION CONTROL BOARD Person J. C. MYERS Phone (512) 451-5711

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Loading facility		50 ton/yr (HC)	4 ton/yr (A)	Vapor recovery system	90+
				(Carbon adsorption)	
Benzene storage tank	60,000 bbl	- (HC)	2.7 ton/yr (A)	Internal floating roof	

SOURCE OPERATION: BATCH/(CONTINUOUS) 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: ____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture 100, Collection 90+, Overall 90+ %

ACFM 281 at 100 °F System cost ($): Capital _____, Operating _____/Year

CYCLONES: Type _____; Tubes: No. _____, D = _____ in., L = _____ ft; ΔP = ____ in. H_2O; Inlet Vel. = ____ ft/s;
Other: _____

ESP Type _____; Total plate area = _____ ft^2; SCA = _____ ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ ft/s; Other _____

FABRIC FILTER: Type _____ Cleaning Mode: _____ Fabric: _____ ΔP = _____ in. H_2O;
Filter vel. (A/C) = _____ ft/s; Other _____

SCRUBBER: Type _____; L/G = _____ gal/1000 ACFM; ΔP = ____ in. H_2O; Liquid used _____
Other: _____

AFTERBURNER: Temp. = _____ °F; Residence Time = _____ s; L/D: _____ Other: _____

OTHER TYPE (CONTROLS) REMARKS/ETC. Carbon adsorption with vacuum stripping regeneration

FUEL PARAMETERS: Type _____; ____ % A; _____ % S; HV _____ BTU/lb-gal-CF; Use Rate _____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER _____

Off-set from on/(off) site; fugitive (point) source; Amount-reqd. 7.7 T/Y; Achieved 10 T/Y

EXPLANATORY REMARKS, NOTES, ETC. Shutdown of a 12,000 bbl/day vacuum unit.

BACT/LAER CLEARINGHOUSE REPORT

(4.3)

SOURCE TYPE/SIZE: TRUCK LOADING TERMINAL

NAME/ADDRESS: TOSCO CORPORATION, AVON REFINERY, MARTINEZ, CA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 6/78, Completed _____, Determination-Proposed _____, Final 8/78

BY: (Agency) BAY AREA AIR POLLUTION CONTROL DIST. Person DAN GOALWIN Phone (415) 771-6000

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Storage tanks (11)	128,000 barrels	[a] 387 ton/yr (HC)	0.4 ton/yr (AIP)	Vapor recovery system of	99.9+
Gasoline truck loading				the compression-refrigera-	
LPG loading				tion type and natural gas	
				(NG) blanketing of liquid	
				surface.	

SOURCE OPERATION: BATCH/(CONTINUOUS): 8060 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: [a] Based on emissions that would occur if stored in cone roof tanks.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture 100, Collection 99.9+, Overall 99.9+ %

ACFM _____ at _____ °F System cost ($): Capital 180,000, Operating _____/Year

CYCLONES: Type _____; Tubes: No. _____, D = _____ in., L = _____ ft; ΔP = ____ in. H_2O; Inlet Vel. = ____ ft/s;
Other: _____

ESP: Type _____; Total plate area = _____ ft^2; SCA = _____ ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ ft/s; Other _____

FABRIC FILTER: Type _____ Cleaning Mode: _____ Fabric: _____ ΔP = _____ in. H_2O;
Filter vel. (A/C) = _____ ft/s; Other _____

SCRUBBER: Type _____; L/G = _____ gal/1000 ACFM; ΔP = ____ in. H_2O; Liquid used _____
Other: _____

AFTERBURNER: Temp. = _____ °F; Residence Time = _____ s; L/D: _____ Other: _____

OTHER TYPE CONTROLS REMARKS/ETC. Vapor recovery system (VRS) is of the Compression-Refrigeration type with 3 compression and 2 refrigeration stages. Tanks are blanketed with natural gas. VRS includes intercoolers, aftercoolers, and condensate knock out vessels.

FUEL PARAMETERS: Type _____; ____ % A; _____ % S; HV _____ BTU/lb-gal-CF; Use Rate _____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER _____

Off-set from on/off site; fugitive/point source; Amount-reqd. _____ T/Y; Achieved _____ T/Y

EXPLANATORY REMARKS, NOTES, ETC. "Banked" off-sets. The 4.3 ton/yr (23.6 lb/day; 1 lb/hr) represents the amount achieved by the control system over and above that required by regulation (floating roof - double seal tanks).

BACT/LAER CLEARINGHOUSE REPORT (4.3)

SOURCE TYPE/SIZE: MARINE LOADING/UNLOADING FACILITY 184×10^6 BBL PER YEAR CRUDE OIL (YEAR 1990)

NAME/ADDRESS: ATLANTIC RICHFIELD COMPANY (ARCO) SEASIDE STREET/PIER E AVE., LONG BEACH, CA.

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on NEW/(MODIFIED) SOURCE
KEY DATES: Application-Recd. 11/77, Completed _____; Determination-Proposed _____, Final 4/79

BY: (Agency) SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, CA Person HENRY CHATFIELD Phone (213) 572-6215

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Marine Terminal [a]					
42" pipeline					
Storage tanks (7)	184×10^6 bbl/yr				
Sump tanks (2)	2700 gal each				
Crude oil transport tankers					

SOURCE OPERATION: (BATCH)/CONTINUOUS: _____ hrs/yr; % by Season W _____ Sp _____ Su _____ F _____

NOTES: [a] Modification was connection to 42 inch crude oil discharge line from terminal to Carson, CA storage tanks. Off-loading quantity limited to 184×10^6 bbl/yr; off-loading rate limited to 85,700 bbl/hr; total number tankers to be off-loaded limited to 183 vessels/yr. The larger pipeline could allow additional tanker activity in the Long Beach port. Trade-offs and LAER controls are associated with tanker vessels.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC. LAER controls for tankers: segregated ballast, inerting gas systems on cargo tanks; no tank purging, pressure control (breather) valves on cargo tanks; use of low sulfur fuel oil (0.5% S) when in coastal waters; no soot blowing within state territorial waters; sealed instrumentation/recorders to detect and record operation of sea valves, associated admission of ballast water into cargo tanks; instrumentation to indicate whether purging, gas-freeing or other release of HC vapor from cargo tanks to atmosphere has occurred.

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on (off) site; (fugitive) (point) source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. Offset obtained by: (1) Shut-down of off-loading by Shell Oil Company at Mormon Island facility in Los Angeles harbor, (2) Cessation of lightering by Shell Oil Company off the San Clemente Islands. (3) Change in make-up of tanker fleet calling at Pier E.

OVERALL NET REDUCTIONS ACHIEVED: 118.5 ton/yr HC, 139.8 ton/yr SO_2, 1.5 ton/yr NO_x, 6.5 ton/yr PM

LAER - ADDITIONAL DETERMINATIONS - EVAPORATIVE LOSS 4.0
(TRANSPORTATION AND MARKETING OF PETROLEUM LIQUIDS - 4.3)

NAME - LOCATION	DESCRIPTORS	AGENCY
Coastal Petroleum Refineries, Inc Santa Anna, CA	Truck loading/unloading 10,000 bbl/day	EPA RO IX

4.4

BACT

BACT/LAER CLEARINGHOUSE REPORT (4.4)

SOURCE TYPE/SIZE: ROTOGRAVURE PRINTING PRESS

NAME/ADDRESS: MEAD PACKAGING, ATLANTA, GA Site at Buena Park, CA

DETERMINATION IS: CONDITIONAL / (FINAL) / PENDING: DATE OF ISSUE: 4/28/78 BASIS:* BACT[1] / LAER / (BACT[2])
FOR (NEW) / MODIFIED SOURCE

BY EPA REGION IX (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Printing press	6000 lb/solvent per day	VOC	78 tons/yr (B)	Thermal oxidizer	90

NOTES: Permit limits operation of 6240 hr/yr. Source was determined to be exempt from air quality impact analysis.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT - ADDITIONAL DETERMINATIONS - EVAPORATIVE LOSS 4.0
(GRAPHIC ARTS AND OTHER - 4.4)

NAME - LOCATION	DESCRIPTORS	AGENCY

4.4

LAER

BACT/LAER CLEARINGHOUSE REPORT (4.4)

SOURCE TYPE/SIZE: MAGAZINE PRINTING BY ROTOGRAVURE PROCESS

NAME/ADDRESS: SAN JOSE GRAPHICS, 696 TRIMBLE ROAD, SAN JOSE, CA

DETERMINATION DATA: (CONDITIONAL)/FINAL/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 8/78, Completed ____; Determination-Proposed ____, Final 5/79

BY: (Agency) BAY AREA AIR POLLUTION CONTROL DIST. Person DAN GOALWIN Phone (415) 771-6000

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Rotogravure press		3764 ton/yr (HC)	[a] 113 ton/yr (AIP)	Carbon Adsorption	97%

144

SOURCE OPERATION: BATCH/(CONTINUOUS): 6000 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: [a] Permit condition specifies that the total emission rate from press room floor losses and from the treatment system (carbon adsorption unit) shall not exceed 92 lb/hr.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture 100, Collection 97, Overall 97 %

ACFM 105,000 at 105 °F System cost ($): Capital 1,500,000, Operating _____/Year

CYCLONES: Type _____; Tubes: No. _____, D = _____ in., L = _____ ft; ΔP = ___ in. H_2O; Inlet Vel. = ___ ft/s;
Other: _____

ESP: Type _____; Total plate area = _____ ft^2; SCA = _____ ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ ft/s; Other _____

FABRIC FILTER: Type _____ Cleaning Mode: _____ Fabric: _____ ΔP = _____ in. H_2O;
Filter vel. (A/C) = _____ ft/s; Other _____

SCRUBBER: Type _____; L/G = _____ gal/1000 ACFM; ΔP = ____ in. H_2O; Liquid used _____
Other: _____

AFTERBURNER: Temp. = _____ °F; Residence Time = _____ s; L/D: _____ Other: _____

OTHER TYPE (CONTROLS) REMARKS/ETC. Carbon bed adsorption (CA) unit - American CECA Corporation. This is a 4-unit, fixed (single) bed recovery system to control emissions from all three (1 new, 2 existing) rotogravure presses and 50% of evaporative losses in the press room area.

FUEL PARAMETERS: Type _____; ____ % A; _____ % S; HV _____ BTU/lb-gal-CF; Use Rate _____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/(HC)/NO_x/SO_2/OTHER _____

Off-set from (on)/off site; (fugitive)/(point) source; Amount-reqd. 269 T/Y; Achieved 362 T/Y

EXPLANATORY REMARKS, NOTES, ETC. Achieved by increased control of two existing rotogravure lines and by control of existing fugitive (room losses). This reduction to be accomplished by replacing an existing 3 unit CA system that served 2 presses (91% efficiency) by a 4-unit system (97% efficiency) that serves the two existing presses, the new press and also partially controls floor (evaporative) losses from press room. As regards press room floor (evaporative) losses, fifty percent (50%) of these are to be captured and passed to the CA unit for treatment.

(4.4)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: COMMERCIAL ROTOGRAVURE PRINTING 47.63 TON/HR

NAME/ADDRESS: R. R. DONNELLEY & SONS COMPANY, SPARTANBURG, SC

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____, Determination-Proposed_____, Final 9/21/79

BY: (Agency) SC BUREAU OF AIR QUALITY CONTROL Person OTTO E. PEARSON Phone (803) 758-5406

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE*, -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Print Presses (12)	47.63 ton/h	HC	1882.14 ton/yr (L)	Activated carbon adsorption	97.6
Prep. sink area	16 lb/h solvent	HC	9.98 ton/yr (L)	None	
Chrome plating	0.2 lb/h chrome	Acid mist	0.5 lb/yr (L)	Demisters	99.9
Dechrome/degrease	1.5 lb/h solvent	HC	0.94 ton/yr (L)	None	
Proof Presses (2)	1.9 ton/h	HC	4.03 ton/yr (L)	Activated carbon adsorption	97.6
Solvent storage tanks	11.5×10^6 gal/yr	HC	(L)	Activated carbon adsorption	97.6

SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season _____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES: Emission offset of 2000 ton/yr provided by existing industry.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

LAER - ADDITIONAL DETERMINATIONS - EVAPORATIVE LOSS 4.0
(GRAPHIC ARTS AND OTHER - 4.4)

NAME - LOCATION	DESCRIPTORS	AGENCY
Meredith/Burda Inc. Newton, NC	Rotogravure printing - 4080 lb/h rate	EPA RO IV
W. F. Hall Printing Company Augusta, GA	Rotogravure printing -. 45,000 ton/yr	State-GA

5.0 CHEMICAL PROCESS INDUSTRIES

5.1 Acid manufacture
5.2 Carbon black
5.3 Charcoal
5.4 Paint and varnish
5.5 Petrochemical and chemical manufacturing
5.6 Other (explosives, etc.)

5.1

BACT

BACT/LAER CLEARINGHOUSE REPORT

(5.1)

SOURCE TYPE/SIZE: BORIC ACID PLANT 685 TON/DAY

NAME/ADDRESS: U.S. BORAX AND CHEMICAL COMPANY, LOS ANGELES, CA Site at Boron, CA

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 6/18/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IX
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Steam boiler	150×10^3 lb/hr steam		SO_2	Oil use limited to 840 bbl/day of <0.5% S oil	
Impact mill	85 ton/hr ore feed	TSP	0.003 lb/ton of ore feed to the mill	Baghouse [a]	99.5
Product dryers (3)	Total product processed = 28.5 ton/hr	TSP	0.067 lb/ton of ore feed to boric acid plant	Baghouse [a]	99
Product handling		TSP	0.035 lb/ton product	Enclosed operation and fabric filter as above	99.7
Bulk rail loadout	5 cars/day	TSP	2.0 lb/rail car loaded		99.7

NOTES: [a] Permit amended on 7/19/78 to allow use of baghouses with efficiency of 99.5% on product dryers and impact mill rather than scrubbers as originally proposed. Water spray shall be used to control fugitive emissions.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

 (5.1)

SOURCE TYPE/SIZE: PHOSPHATE FERTILIZER CHEMICAL COMPLEX EXPANSION 2000 TON/DAY

NAME/ADDRESS: OXIDENTAL CHEMICAL COMPANY, WHITE SPRINGS FL

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 2/2/78 BASIS:* . BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IV
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
New contact type		SO_2	333 lb/hr		
double absorption	2000 ton/day	H_2SO_4 Mist	12.5 lb/hr (N)	Mist Eliminator	99+
sulfuric acid plant					
Fossil-fuel-fired	$125x10^6$MMBtu/hr	SO_2	(B)	Low sulfur oil	
steam generator		Part	(B)		
Vacuum evaporation					
super phosphoric	700 ton/day	SiF_4	0.29 lb/hr (N)	Venturi scrubber	
acid (SPA) plant		(silicon tetra-flouride)			

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: PHOSPHATE FERTILIZER CHEMICAL COMPLEX EXPANSION 2000TON/DAY

NAME/ADDRESS: OXIDENTAL CHEMICAL COMPANY, WHITE SPRINGS, FL

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 2/2/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IV (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Fossil fuel-fired		Part			
steam generator	75,000 lb/hr	SO_2	(B)	Low sulfur oil	
		SiF_4			
Phosphoric Acid Train	1500 ton/day	SiF_4	1.54 lb/hr (N)	Hoods and cyclone	99.9%
				scrubber	
		Part	46 lb/hr (N)	baghouse	99.8

NOTES:

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** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT - ADDITIONAL DETERMINATIONS - CHEMICAL PROCESS INDUSTRIES 5.0
(ACID MANUFACTURE - 5.1)

NAME - LOCATION	DESCRIPTORS	AGENCY

5.1

LAER

LAER - ADDITIONAL DETERMINATIONS - CHEMICAL PROCESSES INDUSTRIES 5.0
(ACID MANUFACTURE - 5.1)

NAME - LOCATION	DESCRIPTORS	AGENCY

5.2

BACT

(5.2)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: CARBON BLACK PLANT 63×10^6 LB/YR

NAME/ADDRESS: CONTINENTAL CARBON COMPANY, PHENIX CITY, AL

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 3/30/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY _____ (Agency) _____ (Person) _____ (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Proposed Expansion Facilities	53×10^6 lb/yr Reactor rated at 6.5 TPH	SO_2			
A. Main bag filter		Particulate	0.95 lb/hr	Baghouse [a]	99.9
B. Exhaust bag filter		Particulate	0.13 lb/hr	Baghouse [b]	99.9
C. Firebox stack		Particulate	1.26 lb/hr		
D. Oil preheater		Particulate	0.60 lb/hr		

NOTES: [a] 22,400 SCFM, pressure drop = 4" water, Air/cloth ratio = 1.13
[b] 5,000 SCFM, pressure drop = 7" water, Air/cloth ratio = 1.15
Feedstock oil and liquid fuel shall not exceed 1.6% sulfur by weight.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: CARBON BLACK PLANT 63x10^6 LB/YR

NAME/ADDRESS: CONTINENTAL CARBON COMPANY, PHENIX CITY, AL

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 3/30/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY _____ _____ _____
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION	
				Equipment type, etc.	Eff.,%
Existing Facilities					
E. Air and Oil Preheater		Particulate	2.34 lb/hr		
F. Exhaust bag filter		Particulate	0.077 lb/hr		
G. Firebox stack		Particulate	0.92 lb/hr		
H. Firebox stack		Particulate	0.92 lb/hr		

NOTES: _____

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT - ADDITIONAL DETERMINATIONS - CHEMICAL PROCESS INDUSTRIES 5.0
(CARBON BLACK - 5.2)

NAME - LOCATION	DESCRIPTORS	AGENCY
SID Richardson Carbon & Gasoline Company Big Spring, TX		EPA RO VI

5.2

LAER

LAER - ADDITIONAL DETERMINATIONS - CHEMICAL PROCESSES INDUSTRIES 5.0
(CARBON BLACK - 5.2)

NAME - LOCATION	DESCRIPTORS	AGENCY

5.3

BACT

BACT - ADDITIONAL DETERMINATIONS - CHEMICAL PROCESS INDUSTRIES 5.0
(CHARCOAL - 5.3)

NAME - LOCATION	DESCRIPTORS	AGENCY

5.3

LAER

LAER - ADDITIONAL DETERMINATIONS - CHEMICAL PROCESSES INDUSTRIES 5.0
(CHARCOAL - 5.3)

NAME - LOCATION	DESCRIPTORS	AGENCY

5.4

BACT

BACT - ADDITIONAL DETERMINATIONS - CHEMICAL PROCESS INDUSTRIES 5.0
(PAINT AND VARNISH - 5.4)

NAME - LOCATION	DESCRIPTORS	AGENCY

5.4

LAER

LAER - ADDITIONAL DETERMINATIONS - CHEMICAL PROCESSES INDUSTRIES 5.0
(PAINT AND VARNISH - 5.4)

NAME - LOCATION	DESCRIPTORS	AGENCY

5.5

BACT

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: PETROCHEMICAL COMPLEX 400×10^6 LB/YEAR OF ACRYLONITRILE

NAME/ADDRESS: VISTRON CORPORATION, MIDLAND BLDG., CLEVELAND, OH Site at Calhoun County, TX

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 2/5/79 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE
BY EPA REGION VI
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Acrylonitrile Facility					
Waste gas incinerators		NO_x	8 lb/hr (B)	Incineration and	99.5
		CO	121 lb/hr (B)	combustion controls[a]	
		HC	5.5 lb/hr (B)		
HCN by-product		NO_x	400 lb/hr (B)	Incineration and	
incinerator		CO	121.9 lb/hr (B)	combustion controls[a]	99.5
		HC	6.0 lb/hr (B)		
Catalyst hopper		TSP	<0.1 lb/hr (B)	Cyclone and catalyst trap	

NOTES: [a] Combustion controls consist of low excess air firing, staged combustion, continuous flue gas oxygen monitor/controller, control of combustion air/fuel ratio, boiler and burner design to produce low intensity flames, etc.

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BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: PETROCHEMICAL COMPLEX

NAME/ADDRESS: VISTRON CORPORATION, MIDLAND BLDG., CLEVELAND, OH Site at Calhoun County, TX

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 2/5/79 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION VI
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Acrylates Facility	275x10^6 lb/yr				
Waste gas incinerator		NO_x	20 lb/hr (B)	Combustion controls	
		CO	18.4 lb/hr (B)	Combustion controls	
		SO_2	6.5 lb/hr (B)	Low sulfur fuel	
		TSP	0.9 lb/hr (B)		
Waste water incinerator		NO_x	41.7 lb/hr (B)	Combustion controls	
		CO	3.2 lb/hr (B)	Combustion controls	
		SO_2	33.1 lb/hr (B)	Low sulfur fuel	
		TSP	4.1 lb/hr (B)		

NOTES:

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BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: PETROCHEMICAL COMPLEX

NAME/ADDRESS: VISTRON CORPORATION, MIDLAND BLDG., CLEVELAND, OH Site at Calhoun County, TX

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 2/5/79 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION VI (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Methyl Methacrolate	150×10^6 lb/yr				
Waste gas incinerator		NO_x	15 lb/hr (B)	Combustion controls	
		CO	13.8 lb/hr (B)	Combustion controls	
		SO_2	4.9 lb/hr (B)	Low sulfur fuel	
		TSP	0.7 lb/hr (B)		
Waste water incinerator		NO_x	30.0 lb/hr (B)	Combustion controls	
		CO	2.2 lb/hr (B)	Combustion controls	
		SO_2	23.5 lb/hr (B)	Low sulfur fuel	
		TSP	2.9 lb/hr (B)		

NOTES:

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BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: PETROCHEMICAL COMPLEX

NAME/ADDRESS: VISTRON CORPORATION, MIDLAND BLDG., CLEVELAND, OH Site at Calhoun County, TX

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 2/5/79 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION VI (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Barex (R) Resin Facility	30×10^6 lb/yr				
Thermal oxidizer		NO_x	1.7 lb/hr (B)	Combustion controls	
		CO	0.6 lb/hr (B)		
Acrylamide facility	30×10^6 lb/yr				
Waste gas incinerator		NO_x	19.2 lb/hr (B)	Combustion controls	
		CO	3.4 lb/hr (B)	Combustion controls	
		SO_2	1.2 lb/hr (B)	Low sulfur fuel	
		TSP	0.2 lb/hr (B)		

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: PETROCHEMICAL COMPLEX

NAME/ADDRESS: VISTRON CORPORATION, MIDLAND BLDG., CLEVELAND, OH Site at Calhoun County, TX

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 2/5/79 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION VI
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Olefin Facility	1300×10^6 lb/yr				
Heaters		NO_x	20 lb/hr (B)	Combustion controls	
		CO	4.3 lb/hr (B)	Combustion controls	
		SO_2	52.9 lb/hr (B)	Low sulfur fuel	
		TSP	10.3 lb/hr (B)		
Sulfur recovery unit		SO_2	30.8 lb/hr (B)	Sulfur recovery unit	99.5

NOTES:

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BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: PETROCHEMICAL COMPLEX

NAME/ADDRESS: VISTRON CORPORATION, MIDLAND BLDG., CLEVELAND, OH Site at Calhoun County, TX

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 2/5/79 BASIS:* BACT[1]/LAER/(BACT)[2]
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION VI
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Ammonia Facility	1250 ton/day				
Reformer heaters		NO_x	82.5 lb/hr (B)	Combustion controls	
		CO	17.0 lb/hr (B)	Combustion controls	
		SO_2	162.1 lb/hr (B)	Low sulfur fuel	
		TSP	7.5 lb/hr (B)		
Carbon dioxide stripper		CO	0.4 lb/hr (B)	Combustion controls	

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

(5.5)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: PETROCHEMICAL COMPLEX

NAME/ADDRESS: VISTRON CORPORATION, MIDLAND BLDG., CLEVELAND, OH Site at Calhoun County, TX

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 2/5/79 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION VI
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Urea-granulator/evaporator		TSP	18.2 lb/hr (B)	Scrubber	70-95
Nitric acid absorber	300 ton/day	NO_x	19.2 lb/hr (B)	Extended absorption	
	waste gas				
Ammonium Nitrate		TSP	4.0 lb/hr (B)	Mist eliminator	95
neutralizer					
Synthesis gas vent		CO	114.2 lb/hr (B)	Incinerator	
		SO_2	2.9 lb/hr (B)	Low sulfur fuel	
High sulfur flue gas		SO_2	96.1 lb/hr (B)	Sulfur recovery unit with tail gas clean-up	95.5

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: PETROCHEMICAL COMPLEX

NAME/ADDRESS: VISTRON CORPORATION, MIDLAND BLDG., CLEVELAND, OH Site at Calhoun County, TX

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 2/5/79 BASIS:* BACT[1]/LAER/(BACT)[2]
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION VI
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Phthalic Anhydride Facility	180×10^6 lb/yr				
Waste gas incinerator		CO	5.7 lb/hr (B)	Combustion controls	
		SO_2	34.7 lb/hr (B)	Low sulfur fuel	
		TSP	5.3 lb/hr (B)	Scrubber	50
Utility boilers	600×10^6 Btu/hr	NO_x	178.6 lb/hr (B)	Combustion controls	
		CO	21.5 lb/hr (B)	Combustion controls	
		SO_2	439.4 lb/hr (B)	Low sulfur fuel	
		TSP	40.8 lb/hr (B)		

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: EXPANSION OF SILICONE CHEMICAL MANUFACTURING PLANT/115x10^6 LB/YEAR OF CRUDE SILICONE

NAME/ADDRESS: DOW CORNING CORPORATION, CARROLLTON, KY

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 11/17/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR NEW/(MODIFIED) SOURCE

BY EPA REGION IV/KENTUCKY DEPARTMENT OF NATURAL RESOURCES _____
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION	
				Equipment type, etc.	Eff.,%
Silicone grinding, screening and conveying	Permit limits grinder to 39x10^6 lb/yr	TSP	Opacity - 20%		
Catalyst transfer (2)		TSP	Opacity - 20%		
Methyl Chloride recovery		HC	60 lb/hr	Shall be equipped with a control device at lease 98.3% by weight design efficiency.	
Fume Incinerator		HC		Shall be designed to provide an incineration efficiency for HC of at least 99%	

NOTES: Total plant production limited to 115x10^6 lb/yr of crude silicone

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: EXPANSION OF SILICONE CHEMICAL MANUFACTURING PLANT/115x10^6 LB/YEAR OF CRUDE SILICONE

NAME/ADDRESS: DOW CORNING CORPORATION, CARROLLTON, KY

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 11/17/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR NEW/(MODIFIED) SOURCE

BY EPA REGION IV/KENTUCKY DEPARTMENT OF NATURAL RESOURCES
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Fume Incinerator (continued)		HCl	5 ppm (exhaust stack)	Shall be scrubbed by a suitable	
				medium such that emissions do not	
				exceed 5 ppm in exhaust stack	
Methyl Chloride Unit				Shall be vented to fume	
(Existing Facility)				incinerator	
Chlorosilane Vent		HCl		All scrubbers for HCl controls	
recovery, HCL Unit				shall provide greater than 99%	
Blowdown system, Pilot Plant, and Process C-3				efficiency	

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

(5.5)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: EXPANSION OF SILICONE CHEMICAL MANUFACTURING PLANT/115x10^6 LB/YEAR OF CRUDE SILICONE

NAME/ADDRESS: DOW CORNING CORPORATION, CARROLLTON, KY

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 11/17/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR NEW/(MODIFIED) SOURCE

BY EPA REGION IV/KENTUCKY DEPARTMENT OF NATURAL RESOURCES
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Methyl Chloride Unit, Secondary recovery process		HC	16 lb/hr	Shall be equipped with a control device of at least 99% efficiency by weight.	
Pumps and compressors		HC (fugitives)		All pumps and compressors handling HC materials shall have mechanical seals or other equipment of equivalent or greater efficiency for the prevention of fugitive emissions.	

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT - ADDITIONAL DETERMINATIONS - CHEMICAL PROCESS INDUSTRIES 5.0
(PETROCHEMICAL AND CHEMICAL MANUFACTURING - 5.5)

NAME - LOCATION	DESCRIPTORS	AGENCY
Monsanto Chemicals Aguirre, PR	Herbicide Manufacture	EPA RO II
Exxon Chemical Company Baton Rouge, LA		EPA RO VI
ARCO Chemical Company Harris County, TX	Diisocyante Manufacture	EPA RO VI
Allied Chemical Company Baton Rouge, LA	Polyethylene manufacture	EPA RO VI
DuPont Wilmington, NC	DMT manufacture	EPA RO IV
Shell Oil Company Deer Park, TX	Synthetic organics manufacture	EPA RO VI

5.5

LAER

BACT/LAER CLEARINGHOUSE REPORT (5.5)

SOURCE TYPE/SIZE: ETHYLENE DICHLORIDE MANUFACTURING 650 MILLION LB/YEAR

NAME/ADDRESS: ARCO POLYMERS, INC, PORT ARTHUR, TX

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on NEW/(MODIFIED) SOURCE
KEY DATES: Application-Recd. 12/14/78, Completed 2/9/79; Determination-Proposed -, Final 6/19/79
BY: (Agency) TEXAS AIR CONTROL BOARD Person RON TABERY Phone (512) 451-5711

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE*, -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
1. Incinerator stack	2330 lb/h	2206.8 ton/yr (HC)	1.14 lb/h; (A)	Caustic scrubber	99
			5 ton/yr		
		182.0 ton/yr (Cl_2)	0.04 lb/h; (A)	Caustic scrubber	99.8
			0.4 ton/yr		
Chlorine destruct		530 ton/yr (Cl_2)	1.4 lb/h; (A)	Sparge to 15% caustic sol'n.	90
system			6 ton/yr		
Barge/ship loading		57.4 ton/yr (HC)	0.73 lb/h; (A)	Incinerator	95
			3.2 ton/yr		
Storage tank		7.3 ton/yr (HC)	5.6 ton/yr (A)	Internal secondary seal	23
Storage tank		5.6 ton/yr (HC)	2.0 ton/yr (A)	Internal secondary seal	64

SOURCE OPERATION: BATCH/(CONTINUOUS) 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: Source 1 - Incinerates the chlorinated organics by-product stream from separation system, plus vents from tanks and drums and barge loading operations.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

(SCRUBBER): Type Countercurrent ; L/G = 35 + 2 gal/1000 ACFM; ΔP = ____in. H_2O; Liquid used Water/caustic

Other: Packed bed, two stage scrubber, first stage - water, second stage - caustic.

(AFTERBURNER) (INC) Temp. = 2200 °F; Residence Time = > 2 s; L/D:_____ Other: Destruction efficiency = 99.99%

OTHER TYPE CONTROLS/REMARKS/ETC. Incinerator: Bigelow-Liptak with Maximum design capacity of 16570 lb/hr of flue gas.

FUEL PARAMETERS: Type Nat. gas ; 0 % A; 0 % S; HV 21,500 BTU/(lb)-gal-CF; Use Rate 15 lb/h

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
µm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/(HC)/NO_x/SO_2/OTHER

Off-set from (on)/off site; (fugitive) (point) source; Amount-reqd. 177.0 T/Y; Achieved 222.1 T/Y

EXPLANATORY REMARKS, NOTES, ETC. Offset achieved by closure of Ethylbenzene Units Nos. 1 and 2 at the Port Arthur Plant.

BACT/LAER CLEARINGHOUSE REPORT (5.5)

SOURCE TYPE/SIZE: ETHYLENE DICHLORIDE MANUFACTURING 650 MILLION LB/YEAR

NAME/ADDRESS: ARCO POLYMERS, INC, PORT ARTHUR, TX

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on NEW/(MODIFIED) SOURCE
KEY DATES: Application-Recd. 12/14/78, Completed 2/9/79; Determination-Proposed -, Final 6/19/79
BY: (Agency) TEXAS AIR CONTROL BOARD Person RONALD TABERY Phone (512) 451-5711

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Storage tank		5.6 ton/yr (HC)	2.0 ton/yr (A)	Internal secondary seal	64
Truck loading		0.1 ton/yr (HC)	0.1 ton/yr (A)	Incinerator	99.99
2.Fugitives		84.8 ton/yr (HC)	10.6 ton/yr (A)		88

SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season _____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES: Source 2 - Control measures are specified as venting storage and vessel purges to the incinerator, use of a waste water separator; improved seal of valves, flanges, and joints; double mechanical seals on all pumps and compressors; and installation of rupture discs ahead of relief valves.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

BACT/LAER CLEARINGHOUSE REPORT (5.5)

SOURCE TYPE/SIZE: DETERGENT RANGE OLEFINS UNIT/436 MILLION LB/YEAR

NAME/ADDRESS: SHELL CHEMICAL COMPANY, DEER PARK, TX

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 7/19/78, Completed 7/19/78; Determination-Proposed 9/18/79, Final 10/18/79
BY: (Agency) TEXAS AIR CONTROL BOARD Person RONALD TABERY Phone (512) 451-5711

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
1. Process furnaces	35,000 lb/h fuel	7.8 lb/h; (PM)	7.8 lb/h (A)		
(3 heaters)		34.2 ton/yr			
		85.9 lb/h; (SO_2)	85.9 lb/h (A)	Low sulfur fuel	
		376 ton/yr			
		30 lb/h (NO_x)	30 lb/h (A)		
2. Heavy recycle jet		1.0 lb/h; (HC)	0.1 lb/h; (A)	Surface condenser	90
condenser vent		4.0 ton/yr	0.4 ton/yr		
3. Product splitter		158 lb/h (HC)	0.01 lb/h; (A)	Surface condenser	99+
condenser vent			0.04 ton/yr		

SOURCE OPERATION: BATCH/CONTINUOUS: 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: Source 1 - An SO_2 monitoring system is required since modelling indicates a possible violation of primary NAAQS for SO_2. Further emission reductions will be required if SO_2 emissions prove excessive.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC. Source 2 - Surface condenser - Inlet 380° F, 56.2 CFM; Outlet 100°F, 2.3 CFM.
Source 3 - Surface condenser - Inlet 395°F, 10.8 CFM; Outlet 100°F, 1.3 CFM.

190

FUEL PARAMETERS: Type Fuel oil ; - % A; 0.5 % S; HV 17,785 BTU/(lb)-gal-CF; Use Rate 35,000 lb/h

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/(HC)/NO_x/SO_2/OTHER_____

Off-set from (on)/off site; fugitive/(point source) Amount-reqd. 52.4 T/Y; Achieved 52.4 T/Y

EXPLANATORY REMARKS, NOTES, ETC. Offset achieved from closure of an oxychlorination vent (4994.5 ton/yr) and use of part of this total for offset.

BACT/LAER CLEARINGHOUSE REPORT

5.5

SOURCE TYPE/SIZE: DETERGENT RANGE OLEFINS UNIT/436 MILLION LB/YEAR

NAME/ADDRESS: SHELL CHEMICAL COMPANY, DEER PARK, TX

DETERMINATION DATA: CONDITIONAL/FINAL/PENDING for BACT/LAER on NEW/MODIFIED SOURCE
KEY DATES: Application-Recd. 7/19/78, Completed 7/19/78; Determination-Proposed 9/18/79, Final 10/18/79
BY: (Agency) TEXAS AIR CONTROL BOARD Person RONALD TABERY Phone (512) 451-5711

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
4. Catalyst preparation calcination vent		11 lb/h (PM)	1.0 lb/h; (A) 4.4 ton/yr	Venturi scrubber	90
5. Tanks (43 tanks)		29.9 ton/yr (HC)	30 ton/yr (A)	Internal floating roofs (8 tanks)	
6. Process vents and relief valves		(HC)	None	Flare or incinerate in the process heaters	95
7. Fugitives		5 lb/h; 22 ton/yr (HC)	22 ton/yr (A)	Surveillance, testing, maintenance	
8. Loading operations		(HC)		Vent to flare or provide vapor equalizing line to tank.	

SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season W ____ Sp ____ Su ____ F ____

NOTES: Source 5 - Internal floating roofs required on tanks storing materials which have vapor pressure of 1.3 psia or higher.

Source 6 - Permit requires venting to process heaters at all times.

Source 7 - Program includes monthly testing of all valves, leak free (welded) pipe connections, seal systems required on pump and compressor shafts, timely replacement of defective valves and seals.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture 100, Collection 90, Overall 90 %

ACFM 254 at 250 °F (Source 4) System cost ($): Capital _____, Operating _____/Year

CYCLONES: Type _____; Tubes: No. _____, D = _____ in., L = _____ ft; ΔP = ____ in. H_2O; Inlet Vel. = ____ ft/s;
Other: _____

ESP: Type _____; Total plate area = _____ ft^2; SCA = _____ ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ ft/s; Other _____

FABRIC FILTER: Type _____ Cleaning Mode: _____ Fabric: _____ ΔP = _____ in. H_2O;
Filter vel. (A/C) = _____ ft/s; Other _____

SCRUBBER: (Source 4) Type Venturi with cyclone sep. L/G = 79 gal/1000 ACFM; ΔP = 30 ~~in. H_2O~~ psi; Liquid used Water
Other: _____

AFTERBURNER: Temp. = _____ °F; Residence Time = _____ s; L/D: _____ Other: _____

OTHER TYPE CONTROLS/REMARKS/ETC. _____

FUEL PARAMETERS: Type _____; ____ % A; _____ % S; HV _____ BTU/lb-gal-CF; Use Rate _____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O
5	10	
50	50	
300	100	

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER _____

Off-set from on/off site; fugitive/point source; Amount-reqd. _____ T/Y; Achieved _____ T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

Particle size data pertains to source 4.

BACT/LAER CLEARINGHOUSE REPORT (5.5)

SOURCE TYPE/SIZE: SYNTHETIC RUBBER 46,500 TON/YEAR

NAME/ADDRESS: UNIROYAL, INC., UNIROYAL CHEMICAL DIVISION, GEISMAR, LA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on NEW/(MODIFIED) SOURCE
KEY DATES: Application-Recd. 6/16/78, Completed _____; Determination-Proposed _____, Final 6/27/78

BY: (Agency) LOUISIANA AIR CONTROL COMMISSION Person ATLEY BRASHER Phone (504) 568-5129

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE*, -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Process vents, dewater-	46,500 ton/yr	862.1 lb/h (HC)	60.4 lb/h (A)	Steam stripping technology	
ing screen vents, fin-		(20.9 lb HC/1000 lb	11.3 lb/1000 lb (A)		
ishing dryer vents		product produced)	produced		

SOURCE OPERATION: BATCH/(CONTINUOUS) 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: Plant capacity expansion (modification). Hydrocarbon of concern is hexane.
THE STEAM STRIPPING TECHNOLOGY IS "PROPRIETARY".

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ____in. H_2O; Inlet Vel. = ____ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/(HC)/NO_x/SO_2/OTHER_____

Off-set from (on)/off site; fugitive/(point) source; Amount-reqd. 329 T/Y; Achieved 380 T/Y

EXPLANATORY REMARKS, NOTES, ETC. Offset achieved by process modification of sixteen existing sources which reduced emissions from these sources by 48%. This was accomplished by steam strip technology on existing dryers and dewatering screens.

LAER - ADDITIONAL DETERMINATIONS - CHEMICAL PROCESSES INDUSTRIES 5.0
(PETROCHEMICAL AND CHEMICAL MANUFACTURING - 5.5)

NAME - LOCATION	DESCRIPTORS	AGENCY
Shell Chemical Company Geisman, LA	Ethylene oxide/glycol	State-LA
Cities Service Oil Company Lake Charles, LA	Polyethylene - 350×10^6 lb/yr	State-LA

5.6

BACT

(5.6)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: MISSISSIPPI ARMY AMMUNITION PLANT (BAY ST. LOUIS, MS)

NAME/ADDRESS: NATIONAL SPACE TECHNOLOGY LABORATORIES, HANCOCK COUNTY, MS

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 9/22/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IV
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Projectile metal parts		Part	13.2 lb/hr (B)		
manufacturing area		SO_2	21.3 lb/hr (B)		
		NO_x	42.3 lb/hr (B)		
		HC	27.5 lb/hr (B)		
Cargo metal parts		Part	7.7 lb/hr (B)		
manufacturing area		SO_2	23.5 lb/hr (B)		
		NO_x	45.6 lb/hr (B)		
		HC	16.8 lb/hr (B)		

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: MISSISSIPPI ARMY AMMUNITION PLANT (BAY ST. LOUIS, MS)

NAME/ADDRESS: NATIONAL SPACE TECHNOLOGY LABORATORIES, HANCOCK COUNTY, MS

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 9/22/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IV
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION	
				Equipment type, etc.	Eff.,%
Load, assemble and		Part	1.2 lb/hr (B)		
pack areas					
Explosive waste		Part	0.077 lb/hr per		
incinerators			incinerator		
Coal-fired boilers		Part	0.05 lb/MM Btu		
		SO_2	1.0 lb/MM Btu		
		NO_x	0.7 lb/MM Btu		

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: MISSISSIPPI ARMY AMMUNITION PLANT (BAY ST. LOUIS, MS)

NAME/ADDRESS: NATIONAL SPACE TECHNOLOGY LABORATORIES, HANCOCK COUNTY, MS

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 9/22/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IV (Agency) _____ (Person) _____ (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION	
				Equipment type, etc.	Eff.,%
Diesel electric		Part	6.8 lb/hr		
generators		SO_2	34.0 lb/hr		
		NO_x	405.0 lb/hr		
		NC	146.0 lb/hr		
Inert waste		Part	0.03 lb/hr per incinerator[a]		
incinerators					

NOTES: [a] Only one unit may be operated at a time. All controls are BACT and 40 CFR 52.21

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT - ADDITIONAL DETERMINATIONS - CHEMICAL PROCESS INDUSTRIES 5.0
(OTHER [EXPLOSIVES, ETC.] - 5.6)

NAME - LOCATION	DESCRIPTORS	AGENCY

5.6

LAER

LAER - ADDITIONAL DETERMINATIONS - CHEMICAL PROCESSES INDUSTRIES 5.0
(OTHER [EXPLOSIVES, ETC.] - 5.6)

NAME - LOCATION	DESCRIPTORS	AGENCY

6.0 FOOD AND AGRICULTURAL INDUSTRIES

6.1 Alfalfa dehydrating

6.2 Feed/grain mills and elevators

6.3 Fertilizer

6.4 Other

6.1

BACT

BACT - ADDITIONAL DETERMINATIONS -
FOOD AND AGRICULTURAL INDUSTRIES 6.0
(ALFALFA DEHYDRATING - 6.1)

NAME - LOCATION	DESCRIPTORS	AGENCY

6.1

LAER

LAER - ADDITIONAL DETERMINATIONS -
FOOD AND AGRICULTURAL INDUSTRIES 6.0
(ALFALFA DEHYDRATING - 6.1)

NAME - LOCATION	DESCRIPTORS	AGENCY

6.2

BACT

BACT - ADDITIONAL DETERMINATIONS -
FOOD AND AGRICULTURAL INDUSTRIES 6.0
(FEED/GRAIN MILLS AND ELEVATORS - 6.2)

NAME - LOCATION	DESCRIPTORS	AGENCY

6.2

LAER

LAER - ADDITIONAL DETERMINATIONS -
FOOD AND AGRICULTURAL INDUSTRIES 6.0
(FEED/GRAIN MILLS AND ELEVATORS - 6.2)

NAME - LOCATION	DESCRIPTORS	AGENCY

6.3

BACT

BACT - ADDITIONAL DETERMINATIONS -
FOOD AND AGRICULTURAL INDUSTRIES 6.0
(FERTILIZER - 6.3)

NAME - LOCATION	DESCRIPTORS	AGENCY

6.3

LAER

LAER - ADDITIONAL DETERMINATIONS -
FOOD AND AGRICULTURAL INDUSTRIES 6.0
(FERTILIZER - 6.3)

NAME - LOCATION	DESCRIPTORS	AGENCY

6.4

BACT

BACT/LAER CLEARINGHOUSE REPORT (6.4)

SOURCE TYPE/SIZE: ALMOND HULLING PLANT

NAME/ADDRESS: GETTY OIL COMPANY, BAKERSFIELD, CA Site at Kern County, CA

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 9/25/78 BASIS:* BACT[1]/LAER/(BACT)[2]
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IX
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Pre-cleaning	30 ton/hr	TSP	13.44 lb/hr total for	Fabric filter	
			plant		
Hulling	5 ton/hr	TSP		Fabric filter	

NOTES: Getty shall operate the plant no more than 90 days/year

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT - ADDITIONAL DETERMINATIONS -
FOOD AND AGRICULTURAL INDUSTRIES 6.0
(OTHER - 6.4)

NAME - LOCATION	DESCRIPTORS	AGENCY
Chickasha Cotton Oil Company Fort Worth, TX	350 ton/day oil	EPA RO VI

6.4

LAER

BACT/LAER CLEARINGHOUSE REPORT (6.4)

SOURCE TYPE/SIZE: FOOD PROCESSING (GELATIVE PRODUCTION)

NAME/ADDRESS: KNOX GELATINE INC., KING & KNOX DIVISION, SIOUX CITY, IA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____, Determination-Proposed_____, Final 2/14/78
BY: (Agency) IOWA DEPT. ENV. QUALITY Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Kiln dryer	3300 lb/h	(PM)	0.02 gr/dscf (L)	High energy Venturi after	98.5
	(dicalcium phos-		0.5 lb/h)	product recovery cyclone	
	phate)				
Materials handling	3300 lb/h	(PM)	0.02 gr/dscf (L)	Fabric filter	99
			(1.33 lb/h)		

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ _____ _____ _____
W Sp Su F

NOTES:_____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ____in. H_2O; Inlet Vel. = ____ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

a (FABRIC FILTER:) Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = 6.9 ft/s; Other_____

b (SCRUBBER:) Type Venturi ; L/G = _____ gal/1000 ACFM; ΔP = 30 in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

a Fabric filter volume = 8200 ACFM at 90° F. Inlet loading = 133 lb/h

Design A/C ratio = 9.0, actual A/C = 6.9

b Venturi scrubber air volume = 6000 ACFM at 115° F. Inlet loading = 33 lb/h

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - (PM) CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

Permit has special conditions requiring offsets.

LAER - ADDITIONAL DETERMINATIONS -
FOOD AND AGRICULTURAL INDUSTRIES 6.0
(OTHER - 6.4)

NAME - LOCATION	DESCRIPTORS	AGENCY

7.0 METALLURGICAL INDUSTRIES

7.1 Primary aluminum

7.2 Metallurgical coke

7.3 Ferroalloy

7.4 Foundries - gray iron, steel, non-ferrous

7.5 Iron and steel mills

7.6 Primary smelters - copper, lead, zinc

7.7 Secondary metal processing - aluminum, lead, zinc

7.8 Other

7.1

BACT

BACT/LAER CLEARINGHOUSE REPORT (7.1)

SOURCE TYPE/SIZE: ALUMINUM REDUCTION PLANT 185,000 TON/YEAR

NAME/ADDRESS: MARTIN MARIETTA CORPORATION, GOLDENDALE, WA 98620

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 8/30/78 BASIS:* BACT[1]/LAER/(BACT)[2]
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION X (Agency) Paul Boys (Person) (206) 442-1106 (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Reduction cells (526)	[a] 507 short ton/day	TSP	2028 lb/day and 4 lb/TAL (B)	Flakt wet scrubber	99.9
		SO_2	7077 lb/day and 13.97 lb/TAL (B)	Flakt wet scrubber	90.9
		Fluorides	656 lb/day and 1.3 lb/TAL (B)	Flakt wet scrubber	99.9

NOTES: [a] Maximum daily production from all reduction cells.
Emission limits are for plant total. After 1 year Fluorides - B to drop to 0.8 lb/TAL.
(TAL means tons aluminum produced).

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

(7.1)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: ALUMINUM REDUCTION PLANT 197,000 TPY

NAME/ADDRESS: ALUMAX, INC., GOOSE CREEK, SC

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 2/23/78 BASIS:* BACT[1]/LAER/(BACT)[2]
FOR (NEW)/MODIFIED SOURCE

BY SOUTH CAROLINA DEPT. OF HEALTH AND ENVIRONMENTAL CONTROL - REGION IV
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION	
				Equipment type, etc.	Eff.,%
Anode bake plant		Opacity	≤ 20%		
		Total Fluorides	0.02 lb/ton of Al produced		
Fluoride scrubbers (4)		Opacity	≤ 10%		
		Particulate	5.92 lb/hr (each)		
		SO_2	269 lb/hr (each)		
Roof monitors (8)		Opacity	≤ 10%		
		Particulate	9.07 lb/hr (each)		
		SO_2	2.75 lb/hr (each)		

NOTES: Coke used in anode production shall not exceed 3.0% sulfur by weight.

Pitch used in anode production shall not exceed 0.6% sulfur by weight.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: ALUMINUM REDUCTION PLANT 197,000 TPY

NAME/ADDRESS: ALUMAX, INC., GOOSE CREEK, SC

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 2/23/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY SOUTH CAROLINA DEPT. OF HEALTH AND ENVIRONMENTAL CONTROL - REGION IV
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION	
				Equipment type, etc.	Eff.,%
Potroom groups		Fluoride TSP	0.61 lb/ton of Al produced		
		Gaseous fluoride	0.41 lb/ton of Al produced		

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: PRIMARY ALUMINUM REDUCTION PLANT

NAME/ADDRESS: EASTALCO, FREDERICK, MD

DETERMINATION IS: (CONDITIONAL)/(FINAL)/PENDING: DATE OF ISSUE: 2/15/78 BASIS:* BACT[1]/LAER/(BACT)[2]
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION III
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION	
				Equipment type, etc.	Eff.,%
Pot Line A	90,000 ton/yr				
Pots		TSP	113 lb/day (B)	Dry scrubber	99.9
		SO_2	8,002 lb/day (B)		
Roof monitor		TSP	1,700 lb/day (B)	Wet scrubber	60
		SO_2	1,922 lb/day (B)		25
Anode bake plant	50,000 ton/yr	TSP	74 lb/day (B)	Dry scrubber (fabric)	60
		SO_2	655 lb/day (B)		25
Pot Line B	90,000 ton/yr	TSP	144 (B)	Dry scrubber	99.9

NOTES: Air quality, soil, vegetation analysis

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: PRIMARY ALUMINUM REDUCTION PLANT

NAME/ADDRESS: EASTALCO, FREDERICK, MD

DETERMINATION IS: (CONDITIONAL)/(FINAL)/PENDING: DATE OF ISSUE: 2/15/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION III
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Potline B (continued)					
Pots		SO_2	8,003 (B)	Fabric Filter	
Roof monitor		TSP	1,700 (B)		60
		SO_2	2,023 (B)		25
Anode bake plant	50,000 ton/yr	TSP	75 (B)	Dry scrubber	67
		SO_2	655 (B)		25
Miscellaneous Points					
Potlines A and B					
Cryolite	61 ton/yr	TSP	48 lb/day (B)	Wet scrubber	85

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: PRIMARY ALUMINUM REDUCTION PLANT

NAME/ADDRESS: EASTALCO, FREDERICK, MD

DETERMINATION IS: CONDITIONAL/FINAL/PENDING: DATE OF ISSUE: 2/15/78 BASIS:* BACT[1]/LAER/BACT[2]
FOR NEW/MODIFIED SOURCE

BY EPA REGION III (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Misc. Points (continued)					
Cryolite (continued)		SO_2	25 lb/day (B)		25
Cast House	176,000 ton/yr	TSP	40 lb/day (B)	Fabric filter	99+
Daybins		TSP	96 lb/day (B)	Fabric filter	99+
Other		TSP	314 lb/day (B)	Fabric filter	99+
Potline C	90,000 ton/yr				
Pots		TSP	156 lb/day (B)	Fabric dry scrubber	99.9
		SO_2	8,772 lb/day (B)		
Roof Monitor		TSP	1,200 (B)		

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: PRIMARY ALUMINUM REDUCTION PLANT

NAME/ADDRESS: EASTALCO, FREDERICK, MD

DETERMINATION IS: (CONDITIONAL)/(FINAL)/PENDING: DATE OF ISSUE: 2/15/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION III (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Potline C (continued)					
Roof monitor (continued)		SO_2	1796 (B)		
Anode bake plant		TSP	75 (B)	Wet scrubber	67
		SO_2	655 (B)		25
Cryolite		TSP	48 (B)	Wet scrubber	85
		SO_2	251 (B)		25
Cast House		TSP	40 (B)	Fabric	99+
Daybin		TSP	48 (B)	Fabric	99+
Other		TSP	314 (B)	Fabric	99+

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT - ADDITIONAL DETERMINATIONS - METALLURGICAL INDUSTRIES 7.0
(PRIMARY ALUMINUM - 7.1)

NAME - LOCATION	DESCRIPTORS	AGENCY
Anaconda Company Henderson, KY	60,000 ton/yr potline and anode bake	EPA RO IV
Martin Marietta Company The Dalles, OR	90,000 ton/yr potline	EPA RO X
Martin Marietta Company Goldendale, WA	140,000 ton/yr	EPA RO X

7.1

LAER

LAER - ADDITIONAL DETERMINATIONS - METALLURGICAL INDUSTRIES 7.0
(PRIMARY ALUMINUM - 7.1)

NAME - LOCATION	DESCRIPTORS	AGENCY

7.2

BACT

BACT/LAER CLEARINGHOUSE REPORT (7.2)

SOURCE TYPE/SIZE: COKE OVEN BATTERY No.4 70 OVENS 782,000 TONS PER YEAR OF COKE

NAME/ADDRESS: SEMET-SOLVAY DIVISION, ALLIED CHEMICAL CORPORATION, ASHLAND, KY

DETERMINATION DATA: CONDITIONAL (FINAL) PENDING for (BACT) LAER on (NEW) MODIFIED SOURCE
KEY DATES: Application-Recd. 9/17/76, Completed 1/5/77 ; Determination-Proposed 2/11/77 , Final 6/8/77
BY: (Agency) U.S. EPA REGION IV Person Not indicated Phone

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEG DESCRIPTION Equipment type, etc.	Eff. %
Rail car dump, and	990,000 ton/yr	1.96 lb/ton coal (PM)	Opacity <5% (B)	Wet suppression	90
associated handling,	(permit limit)		40.9 lb/h		
conveying, transfer			0.196 lb/ton coal		
			processed. Restrict-		
			ed to 350 ton/h coal		
			throughput		
Coal bins and material	350 ton/day and	2.19 lb/ton coal (PM)	Opacity <5% (B)	Wet suppression	90
handling	990,000 ton/yr		45.71 lb/h		
	(permit limit)		0.219 lb/ton of		
			throughput		

SOURCE OPERATION: (BATCH) CONTINUOUS: 4743 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES:

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ____in. H_2O; Inlet Vel. = ____ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; _____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - (PM)/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd. 0 T/Y; Achieved 0 T/Y

EXPLANATORY REMARKS, NOTES, ETC. Regional office judgmental decision that this is common facility for other coke ovens on site and only Reasonably Available Control Measures (RACM) are required.

BACT/LAER CLEARINGHOUSE REPORT

(7.2)

SOURCE TYPE/SIZE: COKE OVEN BATTERY NO.4 70 OVENS 782,000 TONS PER YEAR OF COKE

NAME/ADDRESS: SEMET-SOLVAY DIVISION, ALLIED CHEMICAL CORPORATION, ASHLAND, KY

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 9/17/76, Completed 1/5/77; Determination-Proposed 2/11/77, Final 6/8/77
BY: (Agency) U.S. EPA. REGION IV Person Not indicated Phone

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Coal mix bins and	350 tons/day and	0.55 lb/ton coal (PM)	Opacity 5% (B)	Wet suppression	90
associated handling	990,000 tons/yr		0.055 lb/ton processed		
equipment	(permit limit)				
Coal crusher/pulverizer	350 tons/day and	0.86 lb/ton coal (PM)	Opacity < 5% (B)	Fabric filter	99
and materials handling	990,000 tons/yr		1.8 lb/h		
	(permit limit)		0.0086 lb/ton coal		
Coke screening	240 ton/h coke	0.54 lb/ton coal (PM)	Opacity < 5% (B)	Wet suppression	90
	782,000 ton/yr		16.82 lb/h		
	(permit limit)		0.054 lb/ton coal		

SOURCE OPERATION: (BATCH)/CONTINUOUS: ____ hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES:

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ____in. H_2O; Inlet Vel. = ____ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - (PM)/CO/HC/NO_x/SO_2/OTHER_____

Off-set from (on)/off site; fugitive/(point source); Amount-reqd. 38.31 T/Y; Achieved 38.31 T/Y

EXPLANATORY REMARKS, NOTES, ETC. Shutdown of existing coke oven.

BACT/LAER CLEARINGHOUSE REPORT (7.2)

SOURCE TYPE/SIZE: COKE OVEN BATTERY No.4 70 OVENS 782,000 TONS PER YEAR OF COKE

NAME/ADDRESS: SEMET-SOLVAY DIVISION, ALLIED CHEMICAL CORPORATION, ASHLAND, KY

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 9/17/76, Completed 1/5/77; Determination-Proposed 2/11/77, Final 6/8/77

BY: (Agency) U.S. EPA REGION IV Person Not indicated Phone

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE*-UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment ty, e, etc.	Eff. %
Coal and coke storage	350 tons/day	0.27 lb/ton coal (PM)	Opacity 5% (B)	Wet suppression	90
piles	(permit limit)		3.05 lb/h		
			0.207 lb/ton		
Underfiring	285x10^6 Btu/h	0.03 grains/scf of	0.03 gr/scf	Operation and maintenance	
	(permit limit)	waste gas (PM)	14.99 lb/h/stack		
			0.133 lb/ton coal		
Coke oven gas	311x10^6 Btu/h	0.01 gr/scf of coke (PM)	0.85 lb/h (B)	None	
(excess gas combustion)	2.7x10^{12} Btu/yr	oven gas	0.00748 lb/ton coal		
	(permit limits)		0.01 gr/dscf		

SOURCE OPERATION: BATCH (CONTINUOUS) 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES:

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type Coke oven gas 0 % A; 1.05 % S; HV 525 BTU/lb-gal (CF) Use Rate 592,380 CF/h

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - (PM) CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd. 0 T/Y; Achieved 0 T/Y

EXPLANATORY REMARKS, NOTES, ETC. Regional office ruling that RACM = LAER for these sources.

BACT/LAER CLEARINGHOUSE REPORT (7.2)

SOURCE TYPE/SIZE: COKE OVEN BATTERY No.4 70 OVENS 782,000 TONS PER YEAR OF COKE

NAME/ADDRESS: SEMET-SOLVAY DIVISION, ALLIED CHEMICAL CORPORATION, ASHLAND, KY

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 9/17/76, Completed 1/5/77; Determination-Proposed 2/11/77, Final 6/8/77

BY: (Agency) U.S. EPA REGION IV Person Not indicated Phone

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Charging (wet coal only)	110 ton/h and	1.5 lbs/ton coal (PM)	VE: 48 to 55 s/5 (B)	Staged charging and charging	95
	990,000 tons/yr		consecutive charges	on the main	
	(permit limit)		8.48 lb/h		
			0.074 lb/ton coal		
Topside	113 ton/h and	22 grains/leak/min. (PM)	1.32 lb/h	Operation and maintenance	95
	990,000 ton/yr		0.0117 lb/ton coal		
	(permit limit)				
Pushing [a]	80 ton/h	2.25 lb/ton coke (PM)	32.81 lb/h (B)	Minister Stein System [b]	85
	(permit limit)		0.15 to 0.30 lb/h		
			per ton coke pushed		

SOURCE OPERATION: BATCH (CONTINUOUS) 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: [a] Includes emissions from time coke door removed until car enters quench tower.
[b] Capture 85-90% of PM generated by pushing is required.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ____in. H_2O; Inlet Vel. = ____ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - (PM)/CO/HC/NO_x/SO_2/OTHER_____

Off-set from (on)/off site; (fugitive) (point source) Amount-reqd. See notes T/Y; Achieved See notes T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

Source	Amount required - T/Y	Achieved - T/Y
Charging	141.07	141.07
Topside	5.78	5.78
Pushing	736.06	736.06

Offsets achieved by shutdown of existing battery

BACT/LAER CLEARINGHOUSE REPORT (7.2)

SOURCE TYPE/SIZE: COKE OVEN BATTERY NO.4 70 OVENS 782,000 TONS PER YEAR OF COKE

NAME/ADDRESS: SEMET-SOLVAY DIVISION, ALLIED CHEMICAL CORPORATION, ASHLAND, KY

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 9/17/76 Completed 1/5/77; Determination-Proposed 2/11/77, Final 6/8/77
BY: (Agency) U.S. EPA REGION IV Person Not indicated Phone

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Doors		66 grins/door/min (PM)	See note a (B)	Good design plus operation	90
			7.92 lb/hr	and maintenance	
			0.0701 lb/ton coal		
Quenching	350 ton/h	Unknown (PM)	1.2 lb/ton coal (A)	Clean water, baffles	
	throughput		135.62 lb/h		
	(permit limit)		See note b		

SOURCE OPERATION: BATCH/(CONTINUOUS) 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: a No more than 10% of doors shall exhibit visible emissions.
Both coke side and pusher side doors are counted (church door is part of pusher side) - 2 doors per oven.

b No untreated blowdown to be used as make-up water. Make-up water limited to 1000 mg/l dissolved solids and 100 mg/l suspended solids.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - (PM)/CO/HC/NO_x/SO_2/OTHER_____

Off-set from (on)/off site; (fugitive)/point source; Amount-reqd. 17.34 T/Y; Achieved 17.34 T/Y

EXPLANATORY REMARKS, NOTES, ETC. Shutdown of existing battery.

BACT - ADDITIONAL DETERMINATIONS - METALLURGICAL INDUSTRIES 7.0
(METALLURGICAL COKE - 7.2)

NAME - LOCATION	DESCRIPTORS	AGENCY
Republic Steel Corporation Warren, OH	1500 ton/day/coke oven	EPA RO V

7.2

LAER

BACT/LAER CLEARINGHOUSE REPORT (7.2)

SOURCE TYPE/SIZE: WET COAL BY-PRODUCT COKE OVEN BATTERIES (3) 38 T COKE/HR EACH

NAME/ADDRESS: U.S. STEEL CORPORATION, CLAIRTON WORKS, ALLEGHENY COUNTY, CLAIRTON, PA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 1/78, Completed 4/78; Determination-Proposed 7/78, Final 9/78 (Rev. 5/79)
BY: (Agency) ALLEGHENY COUNTY, PA Person DON GRAHAM Phone (412) 578-8115

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE*, -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Coke Batteries Nos.					
13,14,15					
- 61 ovens each					
Topside:					
Lids	-	- (PM)	No VE except less	Operation and Maintenance	
			than 1% of ports (A)		
Standpipes	-	- (PM)	No VE except from	O&M	
			less than 4% of		
			pipes (A)		

SOURCE OPERATION: (BATCH)/CONTINUOUS: 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES:

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection 99 , Overall____%

ACFM 140,000 at 153 °F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

(SCRUBBER)[b] Type Venturi ; L/G = 8 gal/1000 ACFM; ΔP = 25 in. H_2O; Liquid used Water (see note b)

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC.[b] Aeronetics hot water jet scrubber followed by demister. Water is superheated to 350°F.

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - (PM)/CO/HC/NO_x/SO_2/OTHER_____

Off-set from (on)/off site; fugitive/(point source) Amount-reqd. 447 T/Y; Achieved 370 T/Y

EXPLANATORY REMARKS, NOTES, ETC. Emission offset achieved by shutdown and demolition of present batteries and installation of new batteries with more stringent (LAER) controls than required by current Allegheny County regulations. On a per battery basis the allowable emissions (by SIP regulation) equal 612 ton/yr; emissions from old battery equal 859 ton/yr; emissions from new battery equal 489 ton/yr.

BACT/LAER CLEARINGHOUSE REPORT (7.2)

SOURCE TYPE/SIZE: WET COAL BY-PRODUCT COKE OVEN BATTERIES (3) 38 T COKE/HR EACH

NAME/ADDRESS: U.S. STEEL CORPORATION, CLAIRTON WORKS, ALLEGHENY COUNTY, CLAIRTON, PA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 1/78, Completed 4/78; Determination-Proposed 7/78, Final 9/78 (Rev. 5/79)

BY: (Agency) ALLEGHENY COUNTY, PA Person DON GRAHAM Phone (412) 578-8115

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Doors [a]	-	- (PM)	No VE except from 5%	Self-sealing doors/O&M	
			(or less) of doors (A)		
Charging	56 ton coal/hr/	84 lb/hr (PM)	VE from 5 consecutive	Staged charging	
	battery	(per battery)	charges not to exceed		
			55 s (aggregate of		
			larry car and charging		
			ports). (A)		

SOURCE OPERATION: BATCH/CONTINUOUS: 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: [a] Batteries to be constructed in a manner that does not preclude retrofit of door hood control systems that captures and controls at efficiency of 90%.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ____in. H_2O; Inlet Vel. = ____ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT (7.2)

SOURCE TYPE/SIZE: WET COAL BY-PRODUCT COKE OVEN BATTERIES (3) 38 T COKE/HR EACH

NAME/ADDRESS: U.S. STEEL CORPORATION, CLAIRTON WORKS, ALLEGHENY COUNTY, CLAIRTON, PA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 1/78, Completed 4/78; Determination-Proposed 7/78, Final 9/78 (Rev. 5/79
BY: (Agency) ALLEGHENY COUNTY, PA Person DON GRAHAM Phone (412) 578-8115

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Pushing [b]	38 ton/h coke/	34 lb/h. (PM)	0.03 lb/ton coke push-	Enclosed push control system	
	battery	(per battery)	ed VE from enclosed	(See page 2)	
			push system not to ex-		
			ceed 20%, fugitive		
			dust during transport		
			not to exceed 10%		
Combustion stack [c]	-	(PM)	0.015 gr/dscf	O&M	
			Install and operate		
			Transmissometer		

SOURCE OPERATION: BATCH/CONTINUOUS: 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: [b] Spare mobile car system required.

Emission Rate - Uncontrolled was calculated from AP-42 emission factors.

[c] By permit condition the failure to achieve 0.015 gr/dscf limit requires installation and operation of control device that does achieve this limit.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

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CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT (7.2)

SOURCE TYPE/SIZE: WET COAL BY-PRODUCT COKE OVEN BATTERIES (3) 38 T COKE/HR EACH

NAME/ADDRESS: U.S. STEEL CORPORATION, CLAIRTON WORKS, ALLEGHENY COUNTY, CLAIRTON, PA

DETERMINATION DATA: CONDITIONAL (FINAL) PENDING for BACT (LAER) or (NEW) MODIFIED SOURCE
KEY DATES: Application-Recd. 1/78, Completed 4/78; Determination-Proposed 7/78, Final 9/78 (Rev. 5/79)
BY: (Agency) ALLEGHENY COUNTY, PA Person DON GRAHAM Phone (412) 578-8115

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Coke quenching	38 ton/h/battery	50 lb/h (PM) (per battery)	Divert flow type tower required with interior baffles (A) Only quenchwater meeting state water quality standards is to be used	Tower design of baffle, diverted flow type.	

SOURCE OPERATION: BATCH/CONTINUOUS: 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES:

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture_____, Collection_____, Overall_____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

LAER - ADDITIONAL DETERMINATIONS - METALLURGICAL INDUSTRIES 7.0
(METALLURGICAL COKE - 7.2)

NAME - LOCATION	DESCRIPTORS	AGENCY
U.S. Steel Corp. Clairton, PA	87 ovens (battery No.3) 63 ton coke/h	Local- Allegheny Co., PA

7.3

BACT

BACT/LAER CLEARINGHOUSE REPORT (7.3)

SOURCE TYPE/SIZE: SILICA FUSION OPERATION 5,000 LB/HOUR

NAME/ADDRESS: MINCO, INC., MIDWAY, TENN Site at Midway

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 7/24/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IV (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Electric Arc furnace	1300 lb/hr	TSP	.02 gr/dscf (B)	Fabric filter	99
			3% Opacity		
Crushing, screening,	5000 lb/hr	TSP	.02 gr/dscf (B)	Fabric filter	99
blending and packag-			20% Opacity		
ing					

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT (7.3)

SOURCE TYPE/SIZE: ELECTRIC ARC FURNACE 11 ton

NAME/ADDRESS: PACIFIC STEEL CASTING COMPANY, 600 CAMELIA STREET, BERKELEY, CA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 9/79, Completed ; Determination-Proposed , Final 10/79
BY: (Agency) BAY AREA AIR POLLUTION CONTROL DIST. Person Dan Goalwin Phone (415) 771-6000

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
(1) Elec. Arc Furnace	11 ton	13 lb/ton (PM)	0.13 lbs/ton (AIP)	Baghouse	99
		(39 lb/hr)	(0.39 lb/hr)		
(2) Shake-out	10 ton			Baghouse	99
(3) Cleaning and Grind-	16 ton/hr	0.22 lb/ton (PM)	0.022 lb/hr (AIP)	Baghouse	99
		(2.2 lb/hr)			
(4) Sand system	150 ton/hr	120 lb/hr (PM)	1.20 lb/hr (AIP)	Baghouse	99
(5) Mixer/sand bin	30 ton/hr	70 lb/hr (PM)	1.4 lb/hr (AIP)	Baghouse	98

SOURCE OPERATION: (BATCH)/CONTINUOUS: 3600 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: By federal definition this is considered a minor source. Total controlled emissions = 5.4 ton/yr of particulate matter.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture 100, Collection 99, Overall 99 %

ACFM 25,000 at 250 °F System cost ($): Capital 890,000.00, Operating _____/Year

CYCLONES: Type _____; Tubes: No. _____, D = _____ in., L = _____ ft; ΔP = ____ in. H_2O; Inlet Vel. = ____ ft/s;

Other: _____

ESP: Type _____; Total plate area = _____ ft^2; SCA = _____ ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ ft/s; Other _____

FABRIC FILTER: Type Unknown Cleaning Mode: Unknown Fabric: Dacron ΔP = 4 in. H_2O;

Sources 1,2,3,4 Filter vel. (A/C) = 2.6 ft/s; Other _____

SCRUBBER: Type _____; L/G = _____ gal/1000 ACFM; ΔP = ____ in. H_2O; Liquid used _____

Other: _____

AFTERBURNER: Temp. = _____ °F; Residence Time = _____ s; L/D: _____ Other: _____

OTHER TYPE CONTROLS/REMARKS/ETC. Sources (1) through (4) are controlled by four identical baghouses. Source (5) is controlled by a fabric filter with 6:1 A/C and ΔP = 1" H_2O; other details not known. The capital cost shown is for all five fabric filter installations.

FUEL PARAMETERS: Type _____; ____ % A; _____ % S; HV _____ BTU/lb-gal-CF; Use Rate _____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA

μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER _____

Off-set from on/off site; fugitive/point source; Amount-reqd. _____ T/Y; Achieved _____ T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT - ADDITIONAL DETERMINATIONS - METALLURGICAL INDUSTRIES 7.0
(FERROALLOY - 7.3)

NAME - LOCATION	DESCRIPTORS	AGENCY
Timken Company Canton, OH	20.5 ton/h/electric arc furnace (EAF)	EPA RO V
Lone Star Steel Company Morris County, TX	60 ton/h/electric arc furnaces (2)	State-TX
North Star Steel Company Monroe, MI	140 ton/heat - EAF	EPA RO V
Allegheny Ludlum Steel Brackenridge, PA	70 ton/h EAF (3)	EPA RO III

7.3

LAER

LAER - ADDITIONAL DETERMINATIONS - METALLURGICAL INDUSTRIES 7.0
(FERROALLOY - 7.3)

NAME - LOCATION	DESCRIPTORS	AGENCY

7.4

BACT

BACT/LAER CLEARINGHOUSE REPORT

(7.4)

SOURCE TYPE/SIZE: BRONZE FOUNDRY 1.89 TONS/HOUR

NAME/ADDRESS: SOUTHWESTERN FOUNDRY COMPANY, PARIS, TX

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 5/14/79; Completed 5/29/79; Determination-Proposed -, Final 9/5/79
BY: (Agency) TEXAS AIR CONTROL BOARD Person L. E. Pewitt Phone (512) 451-5711

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Electric Induction	1.89 ton/h	3.8 lb/h (PM)	0.12 lb/h; (A)	Fabric filters	99
furnaces (6) and mold			0.12 ton/yr		
pouring					

SOURCE OPERATION: BATCH/CONTINUOUS: 1960 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: The hooding and duct system controls charging, melting, tapping, and ladling operations.
Operational hours limited to 8 hours/day, 5 days/week, 49 weeks/yr.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture 100, Collection 99, Overall 99 %

ACFM 60,000 at 160 °F System cost ($): Capital _____, Operating _____/Year

CYCLONES: Type _____; Tubes: No. _____, D = _____ in., L = _____ ft; ΔP = ____ in. H_2O; Inlet Vel. = ____ ft/s;
Other: _____

ESP: Type _____; Total plate area = _____ ft^2; SCA = _____ ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ ft/s; Other _____

FABRIC FILTER: Type Griffin Aire-Vac Cleaning Mode: Shaker Fabric: Polyester ΔP = 10 in. H_2O;
Filter vel. (A/C) = 2.6 ft/s; Other _____

SCRUBBER: Type _____; L/G = _____ gal/1000 ACFM; ΔP = ____ in. H_2O; Liquid used _____
Other: _____

AFTERBURNER: Temp. = _____ °F; Residence Time = _____ s; L/D: _____ Other: _____

OTHER TYPE CONTROLS/REMARKS/ETC. _____

FUEL PARAMETERS: Type _____; ____ % A; _____ % S; HV _____ BTU/lb-gal-CF; Use Rate _____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O
0.5	80	
1.0	85	
5.0	95	
10.0	100	

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER _____

Off-set from on/off site; fugitive/point source; Amount-reqd. _____ T/Y; Achieved _____ T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT

(7.4)

SOURCE TYPE/SIZE: BRONZE FOUNDRY 1.89 TONS/HOUR

NAME/ADDRESS: SOUTHWESTERN FOUNDRY COMPANY, PARIS, TX

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 5/14/79, Completed 5/29/79; Determination-Proposed -, Final 9/5/79

BY: (Agency) TEXAS AIR CONTROL BOARD Person L. E. Pewitt Phone (512) 451-5711

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Sand unloading		0.36 lb/h (PM)	.004 lb/h; (A)	Fabric filter	99
			.004 ton/yr		
Sand mulling, shakeout		39.15 lb/h (PM)	7.54 lb/h; (A)	Wet scrubber	80
			7.39 ton/yr		
Fugitive		1.0 lb/h (PM)	1.0 lb/h (A)		
			0.98 ton/h		

SOURCE OPERATION: BATCH/CONTINUOUS: 1960 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: Operating hours limited by permit.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture 100, Collection 99, Overall 99 % (fabric filter)
ACFM 350 at 70 °F System cost ($): Capital 100, Operating 80 /Year (scrubber)
FABRIC FILTER

CYCLONES: Type _____; Tubes: No. _____, D = _____ in., L = _____ ft; ΔP = ___ in. H_2O; Inlet Vel. = ___ ft/s;
Other: _____

ESP: Type _____; Total plate area = _____ ft^2; SCA = _____ ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ ft/s; Other _____

FABRIC FILTER: Type Griffin 36-IS Cleaning Mode: Mech.Shaker Fabric: Cotton-sateen ΔP = 10 in. H_2O;
Filter vel. (A/C) = 2.8 ft/s; Other _____

SCRUBBER: Type Venturi; L/G = 5 gal/1000 ACFM; ΔP = 8 in. H_2O; Liquid used Water
Other: Inlet 88,000 ACFM at 90°F

AFTERBURNER: Temp. = _____ °F; Residence Time = _____ s; L/D: _____ Other: _____

OTHER TYPE CONTROLS/REMARKS/ETC. _____

FUEL PARAMETERS: Type _____; ____ % A; _____ % S; HV _____ BTU/lb-gal-CF; Use Rate _____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O
1.0	1.5	
3.0	3.5	
5.0	5.0	
10.0	10.0	
20.0	15.0	

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER _____
Off-set from on/off site; fugitive/point source; Amount-reqd. _____ T/Y; Achieved _____ T/Y
EXPLANATORY REMARKS, NOTES, ETC. _____
Particle size data pertains to sand muller/shakeout.

BACT/LAER CLEARINGHOUSE REPORT (7.4)

SOURCE TYPE/SIZE: BRONZE FOUNDRY 1.89 TONS/HOUR

NAME/ADDRESS: SOUTHWESTERN FOUNDRY COMPANY, PARIS, TX

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 5/14/79 Completed 5/29/79; Determination-Proposed -, Final 9/5/79
BY: (Agency) TEXAS AIR CONTROL BOARD Person L. E. Pewitt Phone (512) 451-5711

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Casting cleaning	3777 lb/h	35.46 lb/h (PM)	0.37 lb/h; (A)	Fabric filter	99
			0.37 ton/yr		

SOURCE OPERATION: BATCH/CONTINUOUS: 1960 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: Operating hours limited by permit

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture 100, Collection 99, Overall 99 %

ACFM 15,900 at 70 °F System cost ($): Capital _____, Operating _____/Year

CYCLONES: Type _____; Tubes: No. _____, D = _____ in., L = _____ ft; ΔP = ____ in. H_2O; Inlet Vel. = ____ ft/s;

Other: _____

ESP: Type _____; Total plate area = _____ ft^2; SCA = _____ ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ ft/s; Other _____

FABRIC FILTER: Type Griffin Cleaning Mode: Reverse air Fabric: Polyester ΔP = 10 in. H_2O;

Filter vel. (A/C) = 7.4 ft/s; Other _____

SCRUBBER: Type _____; L/G = _____ gal/1000 ACFM; ΔP = ____ in. H_2O; Liquid used _____

Other: _____

AFTERBURNER: Temp. = _____ °F; Residence Time = _____ s; L/D: _____ Other: _____

OTHER TYPE CONTROLS/REMARKS/ETC. _____

FUEL PARAMETERS: Type _____; ____ % A; _____ % S; HV _____ BTU/lb-gal-CF; Use Rate _____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER _____

Off-set from on/off site; fugitive/point source; Amount-reqd. _____ T/Y; Achieved _____ T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT

7.4

SOURCE TYPE/SIZE: IRON FOUNDRY 12 TONS/HOUR

NAME/ADDRESS: DAYTON-WALTHER CORPORATION, DAYTON, OHIO Site at Carrollton, KY

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 11/17/78 BASIS:* BACT[1]/LAER/(BACT)[2]
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IV
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Pre-heating furnace	12 tons/hr	TSP	0.69 lb/ton	No control device	
Scrap melters	12 tons/hr	TSP	0.69 lb/ton	Baghouses	98
Sand handling system	36 lb/hr	TSP	0.02 lb/ton sand	Wet impingement scrubber	98
Shot blaster			0.37 lb/ton	Baghouses	98

NOTES: State performed preliminary and final determinations.
EPA permit granted subject to conditions of state permit.
Gas deodorizer associated with core blower shall be operated at all times.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT - ADDITIONAL DETERMINATIONS - METALLURGICAL INDUSTRIES 7.0
(FOUNDRIES - GRAY IRON, STEEL, NON-FERROUS - 7.4)

NAME - LOCATION	DESCRIPTORS	AGENCY
Opelika Foundry Opelika, AL	3.5 ton/h (cupola)	EPA RO IV
Chaparral Steel Company	800,000 ton/yr	EPA RO VI

7.4

LAER

BACT/LAER CLEARINGHOUSE REPORT

7.4

SOURCE TYPE/SIZE: STEEL FOUNDRY/ELECTRIC ARC FURNACE 271,000 TPY

NAME/ADDRESS: HURON STEEL COMPANY, SANDUSKY, OH

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 11/4/78

BY: (Agency) EPA REGION V Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Electric arc furnace	85 ton/heat	(PM)	0.00234 gr/dscf (L)	fabric filter	99.9
	(2.7×10^5 ton/yr)				

SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season _____ W _____ Sp _____ Su _____ F

NOTES: _____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM 637,000 at ____-____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = 3.8 ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC. Fabric filter has 22 compartments, 396 bags/compartment, total of 8712 bags

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT

(7.4)

SOURCE TYPE/SIZE: ELECTRIC ARC FURNACE (EAF) TWO 300 T (each furnace)

NAME/ADDRESS: JONES & LAUGHLIN STEEL CORPORATION, 2709 E. CARSON STREET, PITTSBURGH, PA 15203

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 9/29/76, Completed 1/5/77; Determination-Proposed 3/28/77, Final 5/9/77

BY: (Agency) ALLEGHENY COUNTY, PA Person DON GRAHAM Phone (412) 578-8115

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
EAF (2)	230 ton/h total	2376 lb/h (PM)	0.0052 gr/dscf (N)	Fabric filter	99
	(115 ton/h each)		(26.7 lb/h)		
			Continuous monitor-		
			ing (N)		

SOURCE OPERATION: (BATCH)/CONTINUOUS: 8760 hrs/yr; % by Season 25 W, 25 Sp, 25 Su, 25 F

NOTES:

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

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CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall 99 %

ACFM 200,000 at 250° °F System cost ($): Capital 10,000,000, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

(FABRIC FILTER) Type Pressurized Cleaning Mode: Shaker Fabric: Nomex ΔP = 6 in. H_2O;
Filter vel. (A/C) = 3 ft/s; Other 13 compartments. Bags have temperature limit of 375°F

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/(REMARKS)/ETC. EAF control system: Hoods over furnace, with no open roof monitors. Additionally, a scavenger system of duct inlets positioned near the roof area exhausts fugitive process emissions to the fabric filter collector.

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - (PM)/CO/HC/NO_x/SO_2/OTHER_____

Off-set from (on)/off site; fugitive/(point source); Amount-reqd. 120 T/Y; Achieved 1195 T/Y

EXPLANATORY REMARKS, NOTES, ETC. The offset was acquired by shutdown of blast furnace and open hearth furnaces.

LAER - ADDITIONAL DETERMINATIONS - METALLURGICAL INDUSTRIES 7.0
(FOUNDRIES - GRAY IRON, STEEL, NON-FERROUS - 7.4)

NAME - LOCATION	DESCRIPTORS	AGENCY

7.5

BACT

BACT - ADDITIONAL DETERMINATIONS - METALLURGICAL INDUSTRIES 7.0
(IRON AND STEEL MILLS - 7.5)

NAME - LOCATION	DESCRIPTORS	AGENCY

7.5

LAER

BACT/LAER CLEARINGHOUSE REPORT (7.5)

SOURCE TYPE/SIZE: STEEL PLANT

NAME/ADDRESS: REPUBLIC STEEL CORPORATION, WARREN, OHIO

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 4/79

BY: (Agency) EPA REGION V Person Ron Van Mersbergen Phone (312) 353-2205

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Electric arc furnaces	1667 ton/day	PM	0.0052 gr/dscf (L)	Fabric filter	99
(2)	(200 ton/heat ea)		3% opacity at stack		
			20% in shop during		
			tap and charge; 0%		
282			other		
			Continuous opacity		
			monitor on stack		
Sinter plant [a]	2255 ton/day				
Windbox		PM	0.02 gr/dscf (L)	Fabric filter	99
Product end		PM	0.01 gr/dscf (L)	See note a	

SOURCE OPERATION: BATCH/CONTINUOUS: 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: [a] Hooded collection points at windbox, product end, mixing drum, feeding bin loader, cooler, hot cold screens and all conveyor transfer points except ore yard tripper transfer point which is to have water spray control.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

BACT/LAER CLEARINGHOUSE REPORT (7.5)

SOURCE TYPE/SIZE: STEEL PLANT

NAME/ADDRESS: REPUBLIC STEEL CORPORATION, WARREN, OHIO

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____, Determination-Proposed_____, Final_____
BY: (Agency) EPA REGION V Person Ron Van Mersbergen Phone (312) 353-2205

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Feed bin loader		PM	0.01 gr/dscf (L)	See note a	
Cooler		PM	0.01 gr/dscf (L)	See note a	
Hot cold screen		PM	0.01 gr/dscf (L)	See note a	
Ore yard tripper transfer point		PM		Water spray control required	
All other conveyor transfer points		PM	0.01 gr/dscf (L)	See note a	
New cast house [b]	3270 ton/day	PM	0.03 lb/ton produced (L)	Fabric filter	90
Old cast house [b]		PM	0.03 lb/ton produced		

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season W_____ Sp_____ Su_____ F_____

NOTES: [b] New cast house - iron and slag notches, spouts, runners to be hooded and exhausted to control device.
Old cast house - only iron and slag notches to skimmer area and spouts to be hooded and exhausted to control device.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT

(7.5)

SOURCE TYPE/SIZE: STEEL PLANT

NAME/ADDRESS: REPUBLIC STEEL CORPORATION, WARREN, OHIO

DETERMINATION DATA: CONDITIONAL/FINAL/PENDING for BACT/LAER on NEW/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final_____
BY: (Agency) EPA REGION V Person Ron Van Mersbergen Phone (312) 353-2205

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Hot metal desulfuriza-		PM	0.02 gr/dscf	Hood, capture (control device	
tion				not determined)	
Boiler No.3 [c]	200x10^6 Btu/h	SO_2	0.8 lb/10^6 Btu (B)		
		PM	0.03 lb/10^6 Btu		
		NO_x	0.23 lb/10^6 Btu		

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ _____ _____ _____
W Sp Su F

NOTES: [c] Continuous monitoring of SO_2 required. Fuel to be blast furnace gas and natural gas; residual oil as standby.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

LAER - ADDITIONAL DETERMINATIONS - METALLURGICAL INDUSTRIES 7.0
(IRON AND STEEL MILLS - 7.5)

NAME - LOCATION	DESCRIPTORS	AGENCY

7.6

BACT

BACT/LAER CLEARINGHOUSE REPORT (7.6)

SOURCE TYPE/SIZE: ZINC REFINERY WITH SULFURIC ACID PLANT

NAME/ADDRESS: JERSEY MINIERE ZINC COMPANY, NASHVILLE, TN Site at Clarksville, TN

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 12/13/76 BASIS:* (BACT)[1]/LAER/BACT[2]
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IV (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc:	Eff.,%
Anode cleaning and casting		TSP	0.014 gr/dscf (B)		
Zinc Melting and casting and dust plant		TSP	0.042 and 0.02 gr/dscf (B)		
Dross handlling		TSP	0.015 gr/dscf (B)		
Cadmium melting		TSP	0.000085 gr/dscf (B)		
Lime storage and conveying		TSP	0.015 gr/dscf		
Zinc roaster		SO_2	0.065% Volume		
		TSP	20% Opacity		
Fugitive emissions		TSP	0.015 gr/dscf		

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT - ADDITIONAL DETERMINATIONS - METALLURGICAL INDUSTRIES 7.0
(PRIMARY SMELTERS - COPPER, LEAD, ZINC - 7.6)

NAME - LOCATION	DESCRIPTORS	AGENCY

7.6

LAER

LAER - ADDITIONAL DETERMINATIONS - METALLURGICAL INDUSTRIES 7.0
(PRIMARY SMELTERS - COPPER, LEAD, ZINC - 7.6)

NAME - LOCATION	DESCRIPTORS	AGENCY

7.7

BACT

(7.7)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: POWDERED STEEL PRODUCTION (SECONDARY METAL PRODUCTION)

NAME/ADDRESS: INTERLAKE, INC., GALLATIN, TN

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 6/23/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IV (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Electric arc furnace	51,750 lb/hr	TSP	12 milligrams/dscm (0.0052 gr/dscf)		
and melt shop opera-		SO_2	5.2 lb/hr (sulfur content of fuel oil shall be limited to 0.25%)		
tions		CO	380.0 lb/hr		
		Opacity	3.% (from electric arc furnace control device)		
		Opacity	0% from melt shop due solely to operating of the furnace except		
			20% (during charging periods)		
			40% (during tapping periods)		

NOTES: Company will use baghouses to control emissions

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: POWDERED STEEL PRODUCTION (SECONDARY METAL PRODUCTION)

NAME/ADDRESS: INTERLAKE, INC., GALLATIN, TN

DETERMINATION IS: CONDITIONAL/FINAL/PENDING: DATE OF ISSUE: 6/23/78 BASIS:* BACT[1]/LAER/BACT[2]
FOR NEW/MODIFIED SOURCE

BY EPA REGION IV
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Rotary dryer operations	42,000 lb/hr	TSP	0.008 grains/dscf		
		SO_2	0.84 lb/hr (sulfur content of fuel oil shall be limited to 0.25%		
Annealing furnaces (3 furnaces-limits per furnace)	4,400 lb/hr (each)	TSP	0.41 lb/hr		
		SO_2	1.16 lb/hr (sulfur content of fuel oil shall be limited to 0.25%		
Breaking, crushing, screening, sizing, blending, batching and packaging operations.		TSP	0.008 grains/dscf		

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

(7.7)

SOURCE TYPE/SIZE: SECONDARY LEAD SMELTER (NEW REVERBERATORY FURNACE)

NAME/ADDRESS: GENERAL BATTERY CORPORATION, READING, PENNSYLVANIA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on NEW/(MODIFIED) SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 5/25/79

BY: (Agency) EPA REGION III Person BEN MYKIJEWYCZ Phone 597-8181

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Blast furnace (exist.)	7 ton/h	SO_2	20.0 lb/h (B)	Venturi scrubber	90
Reverb. furnace (new)	7 ton/h	SO_2	27.0 lb/h (B)	Venturi scrubber	90
Blast furnace (exist.)	7 ton/h	PM	0.022 gr/dscf or (N)	Baghouse	99.5
Reverb. furnace (new)	7 ton/h	PM	1.40 lb/h	Baghouse	99.5
Blast furnace (exist.)	7 ton/h	PM	0.90 lb/h (B)	Baghouse	99.5
Reverb. furnace (new)	7 ton/h	PM			
Blast furnace (exist.)	7 ton/h	Odors	(S)	Afterburner - 1400°F	
Reverb. furnace (new)	7 ton/h	Odors		for at least 0.3 sec.	

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SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES:_____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

BACT/LAER CLEARINGHOUSE REPORT (7.7)

SOURCE TYPE/SIZE: SOLDER PRODUCTION FACILITY (LEAD SMELTING)

NAME/ADDRESS: TONOLLI CORPORATION, NESQUEHONING, PENNSYLVANIA

DETERMINATION DATA: CONDITIONAL/FINAL/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, (Final) 3/26/79

BY: (Agency) EPA REGION III Person BEN MYKIJEWYCZ Phone 597-8181

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Rotary Furnace (2)	1.7 ton/h	PM, Pb, SO_2	PM 2.68 lb/h (B)	ESP	99.55
			Pb 0.16 lb/h (B)	Venturi scrubber	87
			SO_2 8.24 lb/h (B)		
Rotary Furnace (1)	1.7 ton/h	PM, Pb, SO_2	PM 2.68 lb/h (B)		
Standby			Pb 0.16 lb/h (B)		
			SO_2 8.24 lb/h (B)		
Kettles 45 ton	2 ton/h	PM, Pb	PM 1.6 lb/h (B)	Fabric filter	98
Kettles 15 ton	0.75 ton/h	PM, Pb	Pb 0.46 lb/h (B)	Fabric filter	98
Kettles 3 ton	0.2 ton/h	PM, Pb	Pb 0.46 lb/h (B)	Fabric filter	98

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES:_____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

300

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT (7.7)

SOURCE TYPE/SIZE: SOLDER PRODUCTION FACILITY (LEAD SMELTING)

NAME/ADDRESS: TONOLLI CORPORATION, NESQUEHONING, PENNSHLVANIA

DETERMINATION DATA: CONDITIONAL/FINAL/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, (Final) 3/26/79

BY: (Agency) EPA REGION III Person BEN MYKIJEWYCZ Phone 597-8181

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE,* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Casting machines	19 ton/h	PM, Pb	PM 1.6 lb/h (B)	Fabric filter	98
			Pb 0.46 lb/h (B)		

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES:

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT - ADDITIONAL DETERMINATIONS - METALLURGICAL INDUSTRIES 7.0
(SECONDARY METAL PROCESSING - ALUMINUM, LEAD, ZINC - 7.7)

NAME - LOCATION	DESCRIPTORS	AGENCY
Denbo Iron and Steel Decatur, AL	Aluminum furnace	EPA RO IV
Smelter Service Corporation Columbia, TN	Aluminum furnace	EPA RO IV
Barmet Utica, KY	5.5 ton/h rotary dross	State-KY
E.T. Industries Benicia, CA	3 ton/h melt furnaces (4)	Local-BAAPCD

7.7

LAER

LAER - ADDITIONAL DETERMINATIONS - METALLURGICAL INDUSTRIES 7.0
(SECONDARY METAL PROCESSING - ALUMINUM, LEAD, ZINC - 7.7)

NAME - LOCATION	DESCRIPTORS	AGENCY

7.8

BACT

BACT/LAER CLEARINGHOUSE REPORT

(7.8)

SOURCE TYPE/SIZE: STRUCTURAL STEEL FABRICATING PLANT

NAME/ADDRESS: ARROW DEVELOPMENT COMPANY, INC., CLEARFIELD, UT

DETERMINATION IS: (CONDITIONAL)/(FINAL)/PENDING: DATE OF ISSUE: 7/15/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION VIII (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION	
				Equipment type, etc.	Eff.,%
Abrasive blasting	0.75 ton/hr	PART	1.77 ton/yr (3.53 lb/hr)	Baghouse	99
Spray coating		PART	0.413 ton/yr (0.551 lb/hr)	Mechanical filters	85

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

(7.8)

SOURCE TYPE/SIZE: URANIUM MINE AND MILL 950,000 LB/YR (2600 LB/DAY)

NAME/ADDRESS: UNION MINERALS, TUCSON, AZ Site at Gavapai County, AZ

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 11/14/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IX
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION	
				Equipment type, etc.	Eff.,%
Multiple hearth Herr schoff type furnace		TSP		Scrubber	99+
Boilers (2) (one is standby)	25.4×10^6 Btu each	TSP			
Apron feeder		TSP	0.016 lb/hr max. 2 hr avg.	Scrubber	99+
Uranium concentrate area		TSP	0.032 lb/hr max. 2 hr avg.	3 scrubbers for scrubbing and precipitation, drying and packing areas.	99+

NOTES: Oil consumption limited by permit to 225 bbl/day for furnace and boiler. Sulfur content limited to 1.0%.

Source not subject to air quality impact analysis.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT - ADDITIONAL DETERMINATIONS - METALLURGICAL INDUSTRIES 7.0
(OTHER - 7.8)

NAME - LOCATION	DESCRIPTORS	AGENCY

7.8

LAER

LAER - ADDITIONAL DETERMINATIONS - METALLURGICAL INDUSTRIES 7.0
(OTHER - 7.8)

NAME - LOCATION	DESCRIPTORS	AGENCY

8.0 MINERAL PRODUCTS INDUSTRIES

8.1 Asphalt and concrete batch plants
8.2 Coal preparation
8.3 Fiber glass and glass
8.4 Gypsum and lime
8.5 Mineral quarrying and processing
8.6 Portland cement
8.7 Other

3.1

BACT

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(8.1)

BACT/LAER CLEARINGHOUSE REPORT

NEW SOURCE/PSD PERMIT

SOURCE TYPE/SIZE: ASPHALT BATCH PLANT 60,000 TON/YEAR

NAME/ADDRESS: SALT LAKE CITY CORPORATION, SALT LAKE CITY, UT

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 7/20/78 BASIS:* BACT[1] LAER (BACT)[2]
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION VIII (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Asphalt batch plant	250 ton/hr	TSP	0.03 gr/scf	Fabric filter [a]	99.9
			Opacity - 20%		
		Fugitive Dust	To be controlled per application which stated		
			"propose to use a rubber tired front loader to		
			charge the feed bins to minimize fugitive dust		
			from the stockpile."		

NOTES: [a] Air to cloth ratio = 4.98/1, 9000 sq ft. cloth; 45,000 ACFM, Nomex bags.
Shutdown of an existing plant satisfies offset policy.

* Circle one. BACT-1 indicates determination made under pre-197/ amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

8.1

SOURCE TYPE/SIZE: ASPHALT PLANT 210 TON/HOUR (MAX.)

NAME/ADDRESS: WESTERN PAVING, INC. UTAH

DETERMINATION IS: (CONDITIONAL)/FINAL/PENDING: DATE OF ISSUE: 9/28/78 BASIS:* BACT[1] LAER/(BACT)[2]
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION VIII (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Portable asphalt batch plant	210 TPH (max)	TSP	0.035 gr/dscf (B)	Variable venturii scrubber with pressure drop of 18-23 inches w.g., Inlet volume = 28,000 ACFM at 350° F	99.7

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT - ADDITIONAL DETERMINATIONS - MINERAL PRODUCTS INDUSTRIES 8.0
(ASPHALT AND CONCRETE BATCH PLANTS - 8.1)

NAME - LOCATION	DESCRIPTORS	AGENCY
Craig Blacktop and Paving Hagerstown, MD	75,000 ton/yr	EPA RO III
Carl Peters, Inc. Hollywood, AL	100 ton/h	EPA RO IV
Thompson Construction Company Jackson, TN	120 ton/h	EPA RO IV
Southland Paving Company Auburn, AL	150 ton/h	EPA RO IV
Sherrill Paving Company Winston-Salem, NC	150 ton/h	EPA RO IV
Ken-Tenn Construction Company Martin, TN	150 ton/h	EPA RO IV
Oscar Miller Raleigh, NC	320 ton/h	EPA RO IV
Newton County Stone Sheperdsville, KY	450 ton/h	EPA RO IV
D. R. Allen and Son LaGrange, GA	Unknown	EPA RO IV
H. R. Imbt, Inc. Stroudsburg, PA	300 ton/h	EPA RO III
Nifty Paving Company Colburn, VA	90 ton/h	EPA RO III
Burrell Construction and Supply Tarentum, PA	96 ton/h	EPA RO III
Highway Materials, Inc. King of Prussia, PA	50,000 ton/y	EPA RO III
Tennessee Blacktop, Inc. Brentwood, TN	350 ton/h	EPA RO IV
Kentucky Stone Company Marion, KY	163 ton/h	EPA RO IV

8.1

LAER

BACT/LAER CLEARINGHOUSE REPORT

(8.1)

SOURCE TYPE/SIZE: HOT MIX ASPHALT PLANT 400 T/HR

NAME/ADDRESS: WEST VIRGINIA PAVING COMPANY, KANAWHA COUNTY, DUNBAR, WVA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 11/78, Completed 11/78; Determination-Proposed _____, Final 2/79

BY: (Agency) WVA AIR POLLUTION CONTROL COMMISSION Person CHARLES SPANN Phone (304) 348-4022

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Drum Mixer plant	400 ton/h	12,000 lb/h (PM)	11.4 lb/h (A)		
		(27.5 gr/acf)	(.027 gr/acf)	Fabric filter	99.9+

SOURCE OPERATION: BATCH/(CONTINUOUS) 2000 hrs/yr; % by Season - (W) 25 (Sp) 50 (Su) 25 (F)

NOTES: Fugitive dust control. Roadways and haulways paved and maintained with power broom and water spray as necessary. Stockpiles and conveyors controlled by water spray system as needed.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture 99, Collection 99.9+, Overall 99.9+%

ACFM 51,000 at 325 °F System cost ($): Capital ___ - ___, Operating ___ - ___/Year

CYCLONES: Type ___; Tubes: No. ___, D = ___ in., L = ___ ft; ΔP = ___ in. H_2O; Inlet Vel. = ___ ft/s;
Other: ___

ESP Type ___; Total plate area = ___ ft^2; SCA = ___ ft^2/1000 ACFM; L/W ratio = ___
Linear vel. = ___ ft/s; Other ___

(FABRIC FILTER) Type ___ Cleaning Mode: Reverse air Fabric: 14 oz. Nomex ΔP = 4-6 in. H_2O;
Filter vel. (A/C) = 5 ft/s; Other Astec Industries, Inc. Model SDFS-55, Cloth area = 10,098 sq. ft.

SCRUBBER: Type ___; L/G = ___ gal/1000 ACFM; ΔP = ___ in. H_2O; Liquid used ___
Other: ___

AFTERBURNER: Temp. = ___ °F; Residence Time = ___ s; L/D: ___ Other: ___

OTHER TYPE CONTROLS/REMARKS/ETC. ___

320

FUEL PARAMETERS: Type ___; ___ % A; ___ % S; HV ___ BTU/lb-gal-CF; Use Rate ___

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - (PM)/CO/HC/NO_x/SO_2/OTHER ___

Off-set from (on)/off site; fugitive/(point source); Amount-reqd. b T/Y; Achieved b T/Y

EXPLANATORY REMARKS, NOTES, ETC. b This was a replacement of an existing plant and resulted in net decrease in emissions.

LAER - ADDITIONAL DETERMINATIONS - MINERAL PRODUCTS INDUSTRIES 8.0
(ASPHALT AND CONCRETE BATCH PLANTS - 8.1)

NAME - LOCATION	DESCRIPTORS	AGENCY

8.2

BACT

BACT/LAER CLEARINGHOUSE REPORT

(8.2)

SOURCE TYPE/SIZE: COAL PREPARATION PLANT 1.12×10^6 LB/HR

NAME/ADDRESS: WESTMORELAND COAL COMPANY, ECCLES, WV

DETERMINATION IS: CONDITIONAL/FINAL/(PENDING:) DATE OF ISSUE: _____ BASIS:* BACT[1]/LAER/(BACT[2])

FOR (NEW)/MODIFIED SOURCE

BY EPA REGION III
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Coal dryer (2)	560,000 lb/hr	TSP	.025 gr/dscf (B)	Cyclone and Venturii	99.8
	each	SO_2	34 lb/hr (B)		40

NOTES: From 12 to 8 am second drier must not operate above 50% design capacity; also 19.6 lb/hr limit on TSP for each drier. Stack tests within 60 days of commencement. All modelling done.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

(8.2)

SOURCE TYPE/SIZE: COAL CLEANING PLANT 100 TON/HOUR

NAME/ADDRESS: BLACKSTONE COAL COMPANY, FT. PAYNE, AL

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 11/17/77 BASIS:* BACT[1]/LAER/(BACT)[2]
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IV
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Truck dump	100 ton/hr	TSP	.05 lb/ton (B=N)	Enclosed wet suppression	90
Screens and transfer points		TSP	.07 lb/ton (B=N)	Enclosed wet suppression	90
Crusher		TSP	.02 lb/ton (B=N)	Enclosed wet suppression	90
Surge bins		TSP			90
Stock piles		TSP	.03 lb/ton (B=N)	Enclosed wet suppression	90
Wet washing		TSP		None needed	
Loading		TSP	.05 lb/ton (B=N)	Wet suppression	90

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT (8.2)

SOURCE TYPE/SIZE: COAL CLEANING PLANT 1000 TONS/HR

NAME/ADDRESS: R & P COAL COMPANY, BELMONT COUNTY, OH

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 3/31/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION V
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Truck dump	1000 lb/hr	TSP	3.5 ton/yr (B)	Capture and fabric filter	80
Rotary breaker	1000 lb/hr	TSP	2.5 ton/yr (B)	Fabric filter	99
Raw coal transfer belts	1000 lb/hr	TSP	17.5 ton/yr (B)	Capture plus fabric filter	80
Raw coal storage pile	1000 lb/hr	TSP	24.1 ton/yr (B)	Dedusting agent	90
Raw coal sampling bldg	1000 lb/hr	TSP	0.9 ton/yr (B)	Dust collector	99
Preparation plant duct belt	1000 lb/hr	TSP	0.9 ton/yr (B)	Dust collector	99

NOTES: No air quality analysis required

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

(8.2)

SOURCE TYPE/SIZE: COAL PREPARATION PLANT 1.92x10^6 TON/YR

NAME/ADDRESS: BADGER COAL COMPANY, GRAND BADGER NO.1, SAGO, W.VA.

DETERMINATION IS: CONDITIONAL/FINAL/PENDING: DATE OF ISSUE: 1/5/79 BASIS:* BACT[1]/LAER/(BACT[2])
FOR NEW/MODIFIED SOURCE

BY EPA REGION III (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Thermal dryer	2.2x10^6 ton/yr	TSP	27.8 lb/hr and 0.031	Cyclones	95
			gr/dscf (N)	Venturii and mist	99.8
				eliminator	
		SO_2	88.8 lb/hr (B)	Venturii	50

NOTES: Required stack height of 188.9 ft above grade.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, ^{n} = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT (8.2)

SOURCE TYPE/SIZE: COAL PREPARATION PLANT

NAME/ADDRESS: ISLAND CREEK COAL COMPANY, UPSHUR PLANT, TALLMANVILLE, WV

DETERMINATION IS: CONDITIONAL/FINAL/(PENDING): DATE OF ISSUE: _____ BASIS:* BACT[1]/LAER/(BACT)[2]
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION III
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Thermal dryer	321 ton/hr	TSP	30.5 lb/hr and (B)	Mechanical cyclones	99.76
	feed rate		0.031 gr/dscf	followed by Venturii	
	(130×10^6 Btu/hr			scrubber	
	stoker fired	SO_2	60.0 lb/hr (B)		70.3
	dryer) using				
	1% S; 8.5% A				
	HV=12,900				
	Btu/lb				

NOTES: Equipment and emission rates determined to be BACT. Entire operation shall be operated and maintained to minimum fugitive dust. Maintain records and conduct stack emission tests to determine compliance. Stack will be 180 feet.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT - ADDITIONAL DETERMINATIONS - MINERAL PRODUCTS INDUSTRIES 8.0
(COAL PREPARATION - 8.2)

NAME - LOCATION	DESCRIPTORS	AGENCY
Adams Construction Company Allen, KY	150,000 ton/yr - crusher, materials handling	EPA RO IV
Texas Industries Thurber, TX	200,000 ton/yr - materials handling	EPA RO VI
Cargill-Johnson Coal Company Manchester, KY	300,000 ton/yr - crusher, materials handling	EPA RO IV
Blackstone Coal Company Ft. Payne, AL	100 ton/h - crusher, materials handling	EPA RO IV
Island Creek Coal Company Providence, KY	100 ton/h - crusher 400 ton/h - materials handling	EPA RO IV
Island Creek Coal Company Fies, KY	100 ton/h - crusher, materials handling	EPA RO IV
Island Creek Coal Company Turkey Creek, KY	600,000 ton/yr - dryer, materials handling	EPA RO IV
Intercontinental Coal AL	800,000 ton/yr - crusher, materials handling	EPA RO IV
Tesoro Coal Company Hazard, KY	1,000,000 ton/yr - crusher, materials handling	EPA RO IV
Greenwood Land and Mining Company Greenwood, KY	1,000,000 ton/yr - crusher, materials handling	EPA RO IV
Powermaker, Inc. Dunlap, TN	200 lb/h - dryer, crusher, materials handling	EPA RO IV
Consumer Coal Company Perry County, KY	300 ton/hr - crusher 300 - materials handling	EPA RO IV
Anschutz Coal Corporation Carbondale, CO	300 ton/hr - crusher, materials handling	EPA RO VIII
Island Creek Coal Company Talmanville, WV	321 ton/h - dryer	EPA RO III
Utah Power and Light Emery County, UT	2.3×10^6 ton/yr - crusher,	EPA RO VIII

BACT - ADDITIONAL DETERMINATIONS - MINERAL PRODUCTS INDUSTRIES 8.0
(COAL PREPARATION - 8.2)

NAME - LOCATION	DESCRIPTORS	AGENCY
Baily Mining Company Bypro, KY	450 ton/h - crusher, materials handling	EPA RO IV
George Arrington Company Boyd County, KY	500 ton/h - crusher, materials handling	EPA RO IV
Richard M. Johnson Boyd County, KY	500 ton/h - crusher	EPA RO IV
Lake Coal Company Letcher County, KY	500 ton/h - crusher, materials handling	EPA RO IV
Bledsoe Coal Company Helton, KY	500 ton/h - crusher, materials handling	EPA RO IV
T. C. Bell, Inc. Cannon, KY	500 ton/h - crusher, materials handling	EPA RO IV
Bell County Coal Corporation Middlesboro, KY	500 ton/h - crusher, materials handling	EPA RO IV
Branham and Baker Prestonburg, KY	800 ton/h - crusher 800 ton/h - materials handling	EPA RO IV
Peabody Coal Company Morganfield, KY	1875 ton/h - crusher materials handling	EPA RO IV
Mid-Continent Coal and Coke Ridetone, CO	Size unknown - dryer	EPA RO VIII
Pontiki Coal Lovely, KY	Unknown - dryer, materials handling	EPA RO IV
Island Creek Coal Company Bob White, WV	0.5×10^6 ton/yr - dryer	EPA RO III
Mettiki Coal Corporation Garret County, MD	700 ton/h - dryer	EPA RO III
Landmark Mining Company Pikeville, KY	418 ton/h - crusher materials handling	EPA RO IV
U.S. Steel Corporation Hueytown, AL	3×10^6 ton/yr - dryer	EPA RO IV

BACT - ADDITIONAL DETERMINATIONS - MINERAL PRODUCTS INDUSTRIES 8.0
(COAL PREPARATION - 8.2)

NAME - LOCATION	DESCRIPTORS	AGENCY
Blue Grass Mining Greenup, KY	200 ton/h - crusher	EPA RO IV
U. S. Steel, Westville Plant Vermillion County, Illinois	2.05×10^6 ton/yr - dryer, materials handling	EPA RO V
Chevron Coal Company Manchester, KY	300,000 ton/yr - materials handling	EPA RO IV
Cora Dock Illinois	12×10^6 ton/yr - materials handling	EPA RO V
Clinchfield Coal Company Dante, VA	500 ton/hr - dryer	EPA RO III
Pittston Company Lyburn, WV	635 ton/h - dryer	EPA RO III
High Top Coal Company Lafollette, TN	materials handling	EPA RO IV
Midway, Inc. Greenup, KY	150,000 ton/yr materials handling	EPA RO IV
Falcon Coal Company, Inc. Jackson, KY	2×10^6 ton/yr - materials handling	EPA RO IV
Falcon Coal Company, Inc. Haddix, KY	2×10^6 ton/yr - materials handling	EPA RO IV
Sandy Fork Mining Company Field, KY	1×10^6 ton/yr - materials handling	EPA RO IV
Delta Coals, Inc. Concord, KY	3×10^6 ton/yr - materials handling	EPA RO IV
Clover Coal Company Greasy Creek, KY	1×10^6 - materials handling	EPA RO IV
Sigmon Enterprises Lost Creek, KY	1×10^6 - ton/yr - materials	EPA RO IV
George Arrington Big Sandy River, KY	500 ton/h - materials handling	EPA RO IV

BACT - ADDITIONAL DETERMINATIONS - MINERAL PRODUCTS INDUSTRIES 8.0
(COAL PREPARATION - 8.2)

NAME - LOCATION	DESCRIPTORS	AGENCY
Falcon Coal Company, Inc Sassafras, KY	1400 ton/h - materials handling	EPA RO IV
Greenwood Land & Mining Company Greenwood, KY	250 ton/h - materials handling	EPA RO IV
J. W. Coal Company, Inc. Mt. Vernon, KY	300 ton/hr - materials handling	EPA RO IV
Kentucky Blue Coal Company Fariston, KY	500 ton/hr - materials handling	EPA RO IV
Orton Dock, Inc. Madisonville, KY	1500 ton/h - materials handling	EPA RO IV
Pioneer Coal Company, Inc. Wiscoal, KY	400 ton/h - materials handling	EPA RO IV
Ekee K. Fuels Corp. Font, KY	2000 ton/h - materials handling	EPA RO IV
Ekee K. Fuels Corp. Eriline, KY	250 ton/hr - materials handling	EPA RO IV
Midway. Incorporated Greenup, KY	500 ton/h - materials handling	EPA RO IV
Bledsoe Coal Company Edwin, KY	500 ton/h - materials handling	EPA RO IV
Bailey Mining Company Weeksbury, KY	1.5×10^6 ton/yr - materials handling	EPA RO IV

8.2

LAER

BACT/LAER CLEARINGHOUSE REPORT (8.2)

SOURCE TYPE/SIZE: COAL PROCESSING PLANT, 850,000 TONS PER YEAR

NAME/ADDRESS: PEABODY COAL COMPANY, MOORMAN MINE, MOORMAN, KY

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 2/7/78, Completed 2/15/79; Determination-Proposed 4/13/79, Final 6/25/79

BY: (Agency) KY DIV OF AIR POLLUTION CONTROL Person Michel I. Mashni Phone

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Truck dump	250 ton/h coal	0.5 lb/ton (PM)	0.05 lb/ton (A)	Enclosure, wet suppression	90
Screening, transfer, conveying	250 ton/h	0.7 lb/ton (PM)	0.07 lb/ton (A)	Enclosure, water sprays	90
Crushing	250 ton/h	0.2 lb/ton (PM)	0.02 lb/ton (A)	Enclosure, wet suppression	90
Stockpiles	850,000 ton/yr	0.3 lb/ton (PM)	0.03 lb/ton (A)	Telescoping chute, wet suppression	90
Car loading	250 tons/h	0.5 lb/ton (PM)	0.05 lb/ton (A)	Wet suppression	90
Haul roads		3 lb/mile (PM)	1.5 lb/mile (A)	Wet suppression	50

SOURCE OPERATION: (BATCH)/CONTINUOUS: 3400 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES:

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ____in. H_2O; Inlet Vel. = ____ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC. Dust suppression costs: (June 1978 dollars)

Hopper break wall	= $ 5,479	Water truck	= $166,400
Wet suppression system	= $110,952	Total	= $381,086
Conveyor covers	= $ 35,961		
Rotary breaker cover	= $ 10,631		
Telescopic stockpile chute	= $ 51,663		

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - (PM)/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on (off site) (fugitive)/point source; Amount-reqd. 119.0 T/Y; Achieved 121.6 T/Y

EXPLANATORY REMARKS, NOTES, ETC.

Offsets achieved by reducing the thruput of a nearby mine (Gibralter) by 2400 tons per day.

Offset required = 119.0 ton/yr

Offset achieved = 121.6 ton/yr

LAER - ADDITIONAL DETERMINATIONS - MINERAL PRODUCTS INDUSTRIES 8.0
(COAL PREPARATION - 8.2)

NAME - LOCATION	DESCRIPTORS	AGENCY

8.3

BACT

BACT/LAER CLEARINGHOUSE REPORT (8.3)

SOURCE TYPE/SIZE: FIBERGLASS PRODUCING FACILITY

NAME/ADDRESS: JOHNS-MANVILLE SALES CORPORATION, ETOWAH, TN 37331

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 4-9-79

BY: (Agency) EPA REGION IV Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Two steam gen.boilers	37.5×10^6 Btu/hr	Particulate	0.13# /hr, 106 d/yr (B)		
Bag Oper.Station					
with dust collector	10,000 #/hr	Particulate	0.193#/hr,0.5 hr/d (B)		
Mixed batch storage					
hopper #2	60,000 #/hr	Particulate	1.97 #/hr, 2.41 hr/d	(B)	
Direct melt glass					
furnace	39×10^6 Btu/hr	Particulate	8.0 #/hr (B)		
Wet process material					
machine oven	17.5×10^6 Btu/hr	Particulate	11.5#/hr (B)		

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SOURCE OPERATION: BATCH/CONTINUOUS:_____ hrs/yr; % by Season_____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES:_____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____ _Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = ____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	% <	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT (8.3)

SOURCE TYPE/SIZE: FIBERGLASS PRODUCING FACILITY

NAME/ADDRESS: JOHNS-MANVILLE SALES CORPORATION, ETOWAH, TN 37331

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER or (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 4-9-79

BY: (Agency) EPA REGION IV Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Bad blend batch storage					
hopper	10,000 #/hr	Particulate	(B)		
Storage Silo #1 Glass			2.78 #/hr, 1.52 hr/d,		
batch material (flint)	10,000 #/hr	Particulate	104 d/yr Avg/silos		
			#2-3-5 (B)		
Storage Silo #2 glass			2.78 #/hr, 1.52 hr/d,		
batch material (clay)	10,000 #/hr	Particulate	104 d/yr, Av/Silos		
			#1-3-5 (B)		
Storage Silo #3 Glass	10,000 #/hr	Particulate	2.78 #/hr, 1.52 hr/d,		
batch mat (colemanite)			104 d/yr Av/Silos #1-2-5 (B)		

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season W_____ Sp_____ Su_____ F_____

NOTES:_____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

BACT/LAER CLEARINGHOUSE REPORT (8.3)

SOURCE TYPE/SIZE: FIBERGLASS PRODUCING FACILITY

NAME/ADDRESS: JOHNS-MANVILLE SALES CORPORATION, ETOWAH, TN 37331

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 4-9-79

BY: (Agency) EPA REGION IV Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Storage Silo #4 Glass			2.08 #/hr, 1.12 hr/d,		
Batch mfg. (Limestone)	10,000 #/hr	Particulate	24 d/yr, Av/silos		
			#6 & 7 (B)		
Storage silo #7 Glass			208 #/hr, 1.12 h/d,		
Batch mfg. (saltcake)	2,000 #/hr	Particulate	24 d/yr. Av/Silos		
			#4 & 6 (B)		
Storage Silo #8 (Spare					
for Silos 1-7)	10,000 #/hr	Particulate	Same as Silo Replacement		
			(B)		

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season W_____ Sp_____ Su_____ F_____

NOTES:_____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

BACT/LAER CLEARINGHOUSE REPORT (8.3)

SOURCE TYPE/SIZE: FIBERGLASS PRODUCING FACILITY

NAME/ADDRESS: JOHNS-MANVILLE SALES CORPORATION, ETOWAH, TN 37331

DETERMINATION DATA: CONDITIONAL, (FINAL) PENDING for (BACT) LAER on (NEW) MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 4-9-79
BY: (Agency) EPA REGION IV Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Storage Silo #8 Glass					
Batch mat. (fluorspar)	2,000 #/hr	Particulate	2.08 #/hr, 1.12 hr/d,		
			24 d/yr Av/silos #4 & 7 (B)		
Liquified Petroleum					
Vaporizor	1250 #/hr	Particulate	(B)		
Blending & Mixing					
Hopper for glass					
batch matl. PES #8	60,000 #/hr	Particulate	0.26 #/hr, 4.3 hr/d		
Mixed Batch Storage					
hopper #1	60,000 #/hr	Particulate	1.97 #/hr, 2.41 hr/d		

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season W_____ Sp_____ Su_____ F_____

NOTES:_____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

(8.3)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: FIBER GLASS PLANT

NAME/ADDRESS: JOHNS-MANVILLE SALES CORPORATION, DENVER, CO Site at Willows, CA

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 10/3/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IX
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION	
				Equipment type, etc.	Eff.,%
Line 132 (modified)					
Collection		TSP	4.22 lb/hr (per unit) (B)		
Cooling		TSP	0.48 lb/hr (per unit) (B)		
Curing		TSP	7.00 lb/hr (per unit) (B)		
Wool blowing		TSP	0.20 lb/hr (per unit) (B)		

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: FIBER GLASS PLANT

NAME/ADDRESS: JOHNS-MANVILLE SALES CORPORATION, DENVER, CO Site at Willows, CA

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 10/3/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IX
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION	
				Equipment type, etc.	Eff.,%
Line 133 (new)					
Silos		TSP	0.40 lb/hr (per unit) (B)		
Melter		TSP	1.25 lb/hr (B)		
Collection		TSP	5.20 lb/hr (per unit) (B)		
Curing		TSP	8.00 lb/hr (B)		
Cooling		TSP	0.76 lb/hr (B)		
Mixing		TSP	0.20 lb/hr (per unit) (B)		
Cullet		TSP	0.01 lb/hr (B)		

NOTES: Herm process defined as BACT for new line 133

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT - ADDITIONAL DETERMINATIONS - MINERAL PRODUCTS INDUSTRIES 8.0
(FIBER GLASS AND GLASS - 8.3)

NAME - LOCATION	DESCRIPTORS	AGENCY

8.3

LAER

LAER - ADDITIONAL DETERMINATIONS - MINERAL PRODUCTS INDUSTRIES 8.0
(FIBER GLASS AND GLASS - 8.3)

NAME - LOCATION	DESCRIPTORS	AGENCY

8.4

BACT

BACT/LAER CLEARINGHOUSE REPORT

(8.4)

SOURCE TYPE/SIZE: LIME PLANT 22.5 TON/HR OF LIME

NAME/ADDRESS: GREER LIME COMPANY, PO BOX FF, SALTVILLE, VA 23470

DETERMINATION IS: (CONDITIONAL)/(FINAL)/PENDING: DATE OF ISSUE: 6/28/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION III (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Lime kiln	33.5 ton/hr	TSP	2.1 lb/hr (B)	Baghouse	99.7
Lime hydrater	3.8 ton/hr	TSP	0.75 lb/hr (B)	Scrubber	85
Crushing and screening	15 ton/hr	TSP	0.49 lb/hr (B)	Baghouse	99.5
Lime kiln	15 ton/hr	SO_2	9.2 lb/hr (B)	<.7% S in fuel	

NOTES: Stack emission tests to be conducted by company. No modelling as emissions were considered small.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT 1 of 2 pages (8.4)

SOURCE TYPE/SIZE: LIME MANUFACTURING PLANT (LUTTRELL, TN) 33.5 TON/HR OF LIME

NAME/ADDRESS: LUTTRELL LIME COMPANY, KNOXVILLE, TN

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 8/21/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IV
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Coal handling	130,466 lb/hr	TSP	0.075 lb/hr (B)	Water spray and baghouse	99.9
Limestone feed and	67,000 lb/hr	SO_2	500 ppm (B)		
kiln		TSP	19.5 lb/hr and		
			Opacity 10% (B)		
Lime hydrator	46,000 lb/hr	TSP	2.1 lb/hr (B)	Baghouse #436	99.9
			.06 lb/hr (B)	Baghouse #509	99.9
			.03 lb/hr (B)	Baghouse #514	99.9
				Scrubber #408	99.9

NOTES: Trucks and railroad cars to be enclosed

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT Page 2 of 2 pages (8.4)

SOURCE TYPE/SIZE: LIME MANUFACTURING PLANT (LUTTRELL, TN) 33.5 TON/HR OF LIME

NAME/ADDRESS: LUTTRELL LIME COMPANY, KNOXVILLE, TN

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 8/21/78 BASIS:* BACT[1]/LAER/(BACT)[2]
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IV
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Lime hydrater (continued)				Baghouse #437	99.9
Product handling system	67,000 lb/hr	TSP	1.3 lb/hr (B)	Baghouse #1	99.9
			1.7 lb/hr (B)	Baghouse #2	99.9
Product storage system		TSP	2.7 lb/hr (B)	Baghouse #3	99.9
			.23 lb/hr (B)	Baghouse #4	99.9
Product loading system	280,000 lb/hr	TSP	.21 lb/hr (B)	Baghouse #5	99.9

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

(8.4)

SOURCE TYPE/SIZE: GYPSUM WALLBOARD MANUFACTURING 20,000 LB/HR OF GYPSUM WALLBOARD

NAME/ADDRESS: FLINTKOTE COMPANY, FLORENCE CO

DETERMINATION IS: CONDITIONAL/FINAL/PENDING: DATE OF ISSUE: 10/27/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR NEW/MODIFIED SOURCE

BY EPA REGION VIII (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Calciner/mill	10 ton/hr	TSP	0.01 gr/acf (B)	Cyclone and	95
	gypsum			baghouse (A/C=5.2)	99.5
End trim saw		TSP	0.08 gr/acf (B)	Baghouse	99.5
Dryer		SO_2		Propane fuel-oil stand-	
				by limited to 0.7%	
				sulfur	

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT - ADDITIONAL DETERMINATIONS - MINERAL PRODUCTS INDUSTRIES 8.0
(GYPSUM AND LIME - 8.4)

NAME - LOCATION	DESCRIPTORS	AGENCY
Allied Products Montevallo, AL	500 ton/h - kiln	EPA RO IV
Martin Marietta Calera, AL	800 ton/day - kiln	EPA RO IV
Ash Grove Cement Company Portland, OR	340 ton/day - kiln	EPA RO IV
Can-AM Corporation Douglas, AZ	400 ton/day - kiln	EPA RO IX
Black River Mining Company Carntown, KY	300 ton/day - kiln and materials handling	EPA RO IV
U.S. Gypsum Oakfield, NY	Milling, calcining, materials handling	EPA RO II

3.4

LAER

BACT/LAER CLEARINGHOUSE REPORT

(8.4)

SOURCE TYPE/SIZE: LIME MANUFACTURE 700 TON PER DAY

NAME/ADDRESS: MARBLEHEAD LIME COMPANY, CHICAGO, IL

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____, Determination-Proposed_____, Final 4/79

BY: (Agency) EPA REGION V Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Lime kiln	700 ton/day	(PM)	0.262 lb/ton	Fabric filter	99.2
			processed		
		(SO_2)	2.08 lb/ton	Limestone absorption of	90
			processed	SO_2 from kiln and fabric	
				filter	
Materials handling		(PM)		Vented to above fabric	99.2
				filter	
Lime hydrator		(PM)	0.262 lb/ton	Venturi scrubber	99.2
			processed		

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ _____ _____ _____
W Sp Su F

NOTES:_____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric: Fibreglass ΔP = _____in. H_2O;

Filter vel. (A/C) = 1.8 ft/s; Other 170,000 CFM; 14 modules; 78 bags each; 10,556 square feet

SCRUBBER? Type Venturi ; L/G = 3.0 gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other: 7000 CFM

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

LAER - ADDITIONAL DETERMINATIONS - MINERAL PRODUCTS INDUSTRIES 8.0
(GYPSUM AND LIME - 8.4)

NAME - LOCATION	DESCRIPTORS	AGENCY
Detroit Lime Company Detroit, MI	1000 ton/day lime kiln	EPA RO V
Marblehead Lime Company Chicago, IL	16000 ton/day lime kiln	EPA RO V

3.5

BACT

BACT/LAER CLEARINGHOUSE REPORT (8.5)

SOURCE TYPE/SIZE: BARITE MINE AND ORE PROCESSING PLANT 400,000 SHORT TONS ORE/YEAR

NAME/ADDRESS: MILCHEM, INC., MONTGOMERY COUNTY, AR

DETERMINATION DATA: CONDITIONAL/FINAL/(PENDING) for (BACT)/LAER on NEW/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 3/16/79
BY: (Agency) EPA REGION VI Person JOHN BUNYAK Phone (214) 767-2742

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Combustion		PM	0.2 lb/h (B)	Baghouses, low resistance	99.8
				cyclone and wet scrubbing as	
Product drying	18.5 mm Btu/h at	PM	5.9 lb/h (B)	above	
	0.685 ton/h coal				
Product handling/storage		PM	1.0 lb/h (B)	Enclosures with exhaust to	99.5
				baghouses	
Rail car loadout	10 cars/day	PM	2.0 lb/h (B)	as above	99.5
Ore handling and stor-	200,000 tons	PM	(B)	Johnson-Marsh Chem--jet dust	
age	product/yr			suppressant system or equiva-	
				lent	

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ _____ _____ _____
W Sp Su F

NOTES:

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture_____, Collection_____, Overall_____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT

(8.5)

SOURCE TYPE/SIZE: BARITE MINE AND ORE PROCESSING PLANT 400,000 SHORT TONS ORE/YEAR

NAME/ADDRESS: MILCHEM, INC., MONTGOMERY COUNTY, AR

DETERMINATION DATA: CONDITIONAL/FINAL (PENDING) for (BACT) LAER on NEW/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 3/16/79
BY: (Agency) EPA REGION VI Person JOHN BUNYAK Phone (214) 767-2742

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Fugitive		PM	(B)		
Haul roads [a]					
Access roads [b]					

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season W_____ Sp_____ Su_____ F_____

NOTES: [a] Speed control and chemical stabilization of surface.
[b] Paving or equivalent stabilization, speed control and restriction of off road use.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT

(8.5)

SOURCE TYPE/SIZE: KAOLIN PROCESSING PLANT

NAME/ADDRESS: ENGELHARD MINERALS AND CHEMICALS COPPORATION

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on NEW/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 6/25/79

BY: (Agency) EPA REGION IV Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Calciner	50,000 ton/yr	PM	9.75 lb/hr (B)	Venturi scrubber	98.7
Cooler	50,000 ton/yr	PM	10.8 lb/hr (B)	Baghouse	99.9
Premilling	50,000 ton/yr	PM	12.8 lb/hr (B)	Baghouse	99.9
Postmilling	50,000 ton/yr	PM	10.8 lb/hr (B)	Baghouse	99.9
Loading & Bagging	67,200 ton/yr	PM	Fugitive Emissions (B)	Baghouse	99.9

SOURCE OPERATION: BATCH/CONTINUOUS:_____ hrs/yr; % by Season_____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES:

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

BACT/LAER CLEARINGHOUSE REPORT

(8.5)

SOURCE TYPE/SIZE: PHOSPHATE MINE 4665x10^6 LB DRY ROCK/YEAR

NAME/ADDRESS: BORDEN CHEMICAL Site at Fort Lonesome, FL

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 12/14/76 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IV (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Fluidized Bed	109x10^6 Btu/hr	TSP	.069 gr/dscf (B)	Venturi scrubber	99+
rock dryer		SO_2	(B)	Low sulfur oil (0.8%)	
Materials storage	5224x10^6 lb/yr	TSP	.069 gr/dscf	Wet scrubber	99
and handling					

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT (8.5)

SOURCE TYPE/SIZE: STONE CRUSHING 200 TON/HOUR CRUSHED STONE

NAME/ADDRESS: FLINTKOTE COMPANY, CAMPBELL GROVE DIVISION, MEDFORD QUARRY, CARROLL COUNTY, MD

DETERMINATION IS: CONDITIONAL/FINAL/(PENDING:) DATE OF ISSUE: _____ BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION III
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Stone crusher	200 ton/hour	TSP	.02 gr/acfd (S)	Water spray and bag-	99.99
				house	
				Eastern Control System	
Primary Crusher	132 ton/hour	TSP	2 ton/year	Model #144-C10	
				13,000 ACFM	
Secondary crusher	50 ton/hour	TSP	1 ton/year	inlet 5 gr/acfd	
(1 screen)				out .02 gr/acfd	
Tertiary crusher (1 screen)	50 ton/hr	TSP	1 ton/year		

NOTES: _____

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

(8.5)

SOURCE TYPE/SIZE: URANIUM ORE MILL 2750 ton/day ore

NAME/ADDRESS: PHILLIPS URANIUM, c/o NILS CORPORATION, DIV., McKINLEY COUNTY, NM

DETERMINATION DATA: CONDITIONAL/FINAL/(PENDING) for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final_____
BY: (Agency) EPA REGION VI Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
[a] Ore storage piles	2750 ton ore/day	PM	11.8 lb/h (B)	Install water sprinkler sys-	51
				tem; maintain 15% moisture	
[a] Crushing conveying, and		PM	0.23 lb/h (B)	Install water sprinkler sys-	
screening activities				tem to maintain 10% moisture.	
Yellowcake drying		PM	0.42 lb/h (B)	Variable throat venturi	99.5
				scrubber	
Yellowcake packaging		PM	0.44 lb/h (B)	Variable throat venturi	99.5
				scrubber	
Soda ash storage and		PM	0.06 lb/h (B)	Storage bin with baghouse	99.8
delivery					

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ _____ _____ _____
W Sp Su F

NOTES: [a] Allowable emissions specified for fugitive sources are non-enforceable because they cannot be quantitatively measured. Emissions presented instead reflect the level of control the applicant claims to be able to achieve by their proposed control technology. These figures also reflect the applicant's modeling input.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ____in. H_2O; Inlet Vel. = ____ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT (8.5)

SOURCE TYPE/SIZE: URANIUM ORE MILL 2750 ton/day ore

NAME/ADDRESS: PHILLIPS URANIUM, c/o NILS CORPORATION, DIV., McKINLEY COUNTY, NM

DETERMINATION DATA: CONDITIONAL/FINAL/(PENDING) for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final_____

BY: (Agency) EPA REGION VI Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Oil-fired boiler (distillate only)	94×10^6 Btu/h	PM	9.4 lb/h and 0.10 lb/10^6 Btu (B)	Controlled combustion, continuous flue gas oxygen monitoring.	
Roads (haul trucks, delivery trucks, private vehicles).		PM	0.079 lb/h (B)	a	
Ore tailings (disposal area)		PM	1.13 lb/h (B)	b	80

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SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ _____ _____ _____
W Sp Su F

NOTES: Visible emissions from all point sources and fugitive sources are limited to 20% equivalent (EPA Method 9)

a Roads - All roads to be paved; unloading areas will be covered with a surface chemical dust suppressant.

b Tailings disposal - Chemically stabilized, fertilized, and conduct a seeding program to restore area to its original state.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ____in. H_2O; Inlet Vel. = ____ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT - ADDITIONAL DETERMINATIONS - MINERAL PRODUCTS INDUSTRIES 8.0
(MINERAL QUARRYING AND PROCESSING - 8.5)

NAME - LOCATION	DESCRIPTORS	AGENCY
Tennessee Electro Minerals Greenville, TN	5 ton/h - crushing	EPA RO IV
Scat, Inc. Pinewood, SC	crushing - materials handling	EPA RO IV
Pathfinder Mines Corporation Shirley Basin, WY	20 ton/yr - mining	EPA RO VIII
Empire Energy Corp.	$3x10^6$ ton/yr - mining	EPA RO VIII
Kerr-McGee Nuclear Corporation Converse County, WY	Mining	EPA RO VIII
Arundel Corporation Towson, MD	400 ton/h - crushing, materials handling	EPA RO III
Houston Oil and Minerals Corp. Manhattan, NV	crushing, materials handling	EPA RO IX
Anglo-American Clays Saundersville, GA	Materials handling, calciner, cooler	EPA RO IV
Concrete Materials, Inc. Brockport, NY	2400 +/day - crushers, materials handling	EPA RO II
Lone Star Industries, Inc. Chesterfield County, VA	$1x10^6$ ton/y - crusher, materials handling	EPA RO III

8.5

LAER

LAER - ADDITIONAL DETERMINATIONS - MINERAL PRODUCTS INDUSTRIES 8.0
(MINERAL QUARRYING AND PROCESSING - 8.5)

NAME - LOCATION	DESCRIPTORS	AGENCY

8.6

BACT

BACT/LAER CLEARINGHOUSE REPORT Page 1 of 4 pages (8.6)

SOURCE TYPE/SIZE: CEMENT PLANT 1.5×10^6 TON/YEAR

NAME/ADDRESS: IDEAL BASIC INDUSTRIES, THEODORE, AL

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 3/30/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IV
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Coal dryer	200 ton/hr	Particulate	21.1 lb/hr or		
			0.031 gr/dscf (N)	whichever is more stringent	
		Opacity	< 20%		
		SO_2	60 lbs/ton of coal or		
			180 lbs/hr	whichever is more stringent	
Coal processing conveying		Opacity	< 10%		
Storage and Loading		Particulate	0.01 gr/dscf		
systems					

NOTES: Alternative #1 - Kilns and coolers exhausting through the raw mill.
Alternative #2 - Coolers exhausting separately

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

SOURCE TYPE/SIZE: CEMENT PLANT 1.5×10^6 TON/YEAR

NAME/ADDRESS: IDEAL BASIC INDUSTRIES, THEODORE, AL

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 3/30/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IV (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Stockpiles		Fugitive Dust	Apply water or suitable chemicals		
Paved surfaces			Clean as necessary		
Loading/unloading			Utilize adequate controls		
			Any spillage cleanup is to be done with a vacuum system		
			Removal of waste materials should minimize fugitive dust.		
			Pave all utilized auto or truck traffic roads		

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

(8.6)

SOURCE TYPE/SIZE: CEMENT PLANT 1.5x10^6 TON/YEAR

NAME/ADDRESS: IDEAL BASIC INDUSTRIES, THEODORE, AL

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 3/30/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IV
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Raw mills, Kilns	Kiln 19,200 lb/hr	Particulate	93 lb/hr or 0.30 (N)		
(and clinker cooler	Mill 12,000 lb/hr		lb/ton of fuel (dry basis)		
if alternative No.1			to kiln	whichever is more stringent	
is utilized)		Opacity	< 20%		
and clay dryer		SO_2	60 lbs/ton of coal		
			burned or 2,160 lb/hr	whichever is more stringent	

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

SOURCE TYPE/SIZE: CEMENT PLANT 1.5x10^6 TON/YEAR

NAME/ADDRESS: IDEAL BASIC INDUSTRIES, THEODORE, AL

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 3/30/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IV (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Clinker Cooler (if		Particulate	31 lb/hr or 0.10 lb/ton of feed (dry basis) to kiln		
alternative No.2 is				whichever is more stringent	
utilized		Opacity	< 10% (N)		
Clay dryer	12,000 lb/hr	Particulate	4.30 lb/hr or 0.01 gr/dscf whichever is more stringent		
		Opacity	< 10% (N)		
Fabric filters		Fugitive dust	Fabric filters used to control fugitive dust on all other emission points not mentioned in the previous conditions, ~~shall meet a particulate emission limit of 0.01 gr/dscf~~		
		Opacity	< 10%		

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

(8.6)

SOURCE TYPE/SIZE: CEMENT PLANT 550,000 TON/YEAR

NAME/ADDRESS: OREGON PORTLAND CEMENT, HUNTINGTON, OR

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 7/27/77 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION X (Agency) KEN BROOKS (Person) (206) 442-1106 (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Kiln	2640 ton/day	TSP	0.325 gr/scf/ (B)	ESP(3)	99.85
			435.92 lb/day		
		SO_2	10 ppm (B)	"Suspension preheater	98
				raw mill system"	
Raw storage	2750 ton/day	TSP	0.0185 gr/scf/ (B)	Jet pulse baghouse	99.9
			2.76 lb/day		
Raw mill	2641 ton/day	TSP	0.0185 gr/scf/ (B)	Jet pulse baghouse	99.9
			15.41 lb/day		

NOTES: Emission limits are for each individual baghouse or ESP.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

SOURCE TYPE/SIZE: CEMENT PLANT 550,000 TON/YEAR

NAME/ADDRESS: OREGON PORTLAND CEMENT, HUNTINGTON, OR

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 7/27/77 BASIS:* BACT[1]/LAER/(BACT)[2]
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION X (Agency) KEN BROOKS (Person) (206) 442-1106 (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Blending	2641 ton/day	TSP	0.0185 gr/scf/ (B)	Jet pulse baghouse	99.9
			44.99 lb/day		
Storage	2641 tons/day	TSP	0.0185 gr/scf/ (B)	Jet pulse baghouse	99.9
			45.21 lb/day		
Clinker	1656 ton/day	TSP	0.0185 gr/scf/ (B)	Jet pulse baghouse(2)	99.9
			3.87 lb/day		
Finish mill	1653 ton/day	TSP	0.0165 gr/scf/ (B)	ESP	99.98
			39.92 lb/day		

NOTES:

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** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

SOURCE TYPE/SIZE: CEMENT PLANT 550,000 TON/YEAR

NAME/ADDRESS: OREGON PORTLAND CEMENT, HUNTINGTON, OR

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 7/27/77 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION X (Agency) KEN BROOKS (Person) (206) 442-1106 (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Clinker/separator	1653 ton/day	TSP	0.0185 gr/scf/ (B)	Jet pulse baghouse	99.9
			20.55 lb/day		
Crusher	345 ton/day	TSP	0.0185 gr/scf/ (B)	Jet pulse baghouse (2)	99.9
			0.95 lb/day		
Coal transporter	256 ton/day	TSP	0.0185 gr/scf/ (B)	Jet pulse baghouse (2)	99.9
			0.79 lb/day		
Cement storage	1729 ton/day	TSP	0.0185 gr/scf/ (B)	Jet pulse baghouse (3)	99.9
			3.36 lb/day		

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

 (8.6)

SOURCE TYPE/SIZE: CEMENT PLANT 550,000 TON/YEAR

NAME/ADDRESS: OREGON PORTLAND CEMENT, HUNTINGTON, OR

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 7/27/77 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION X (Agency) KEN BROOKS (Person) (206) 442-1106 (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Cement truck loading	2000 ton/day	TSP	0.0185 gr/scf/ (B)	Jet pulse baghouse (2)	99.8
			2.67 lb/day		

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT - ADDITIONAL DETERMINATIONS - MINERAL PRODUCTS INDUSTRIES 8.0
(PORTLAND CEMENT - 8.6)

NAME - LOCATION	DESCRIPTORS	AGENCY
Lone Starr LaFarge, Inc. Chesapeake, WV	30,000 ton/yr - kiln, cooler	EPA RO III
Marquette Cement Company Cape Girardeau, MO	1,155,000 ton/yr - kiln	EPA RO VII
Ideal Basic Industries LaPorte, CO	kiln, cooler	EPA RO VIII
Coplay Cement Manufacturing Co. Nazareth, PA	3100 ton/day - kiln, cooler, mills	EPA RO III
General Portland, Inc. Dallas, TX	2750 ton/day - kiln	EPA RO VI
Capitol Aggregates, Inc. San Antonio, TX	1370 ton/day - kiln, cooler, mills	EPA RO VI
Flintkote Company Redding, CA	Unknown - kiln	EPA RO IX
California Portland Cement Co. Redding, CA	$2x10^6$ ton/yr - kiln, cooler	EPA RO IX
Lone Star Industries, Inc. Davenport, CA	59 ton/h - kiln, cooler, mills	EPA RO IX
San Antonio Portland Cement Co. San Antonio, TX	1250 ton/day - kiln, fugitive materials handling	EPA RO VI
Texas Cement Company Buda, TX	2750 ton/day - kiln, mills, handling	EPA RO VI
Gifford-Hill Company Midlothian, TX	3400 ton/day - kiln, cooler, materials handling	EPA RO VI
Lone Star Industries, Inc. Dallas, TX	$1x10^6$ ton/yr - all operations	EPA RO VI

3.6

LAER

BACT/LAER CLEARINGHOUSE REPORT (8.6)

SOURCE TYPE/SIZE: PORTLAND CEMENT PLANT 1.6x10^6 TON/YEAR

NAME/ADDRESS: KAISER CEMENT AND GYPSUM CORPORATION, PERMAMENTE, CA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on NEW/MODIFIED SOURCE (RECONSTRUCTED)
KEY DATES: Application-Recd. 3/78, Completed ____, Determination-Proposed ____, Final 11/78

BY: (Agency) BAY AREA AIR POLLUTION CONTROL DIST. Person DAN GOALWIN Phone (415) 771-6000

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
PERMIT CONDITIONS SPECIFY THE FOLLOWING [a]					
Cement kiln and mills		(PM)	36 lb/hr		
			or 0.02 gr/dscf		
		(SO_2)	230 ppm		
Coal drying and grinding		(PM)	6.6 lb/hr		
			or 0.02 gr/dscf		
		(SO_2)	230 ppm		
Clinker cooler		(PM)	8 lb/hr		
			or 0.01 gr/dscf		
Cement kiln, mills, coal drying and grinding in combination		(NO_x)	1158 lb/hr		

SOURCE OPERATION: BATCH/CONTINUOUS: 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: [a] The permit is subject to the above conditions that specify maximum emission mass rates, grain loadings and concentrations. Also source test sampling facilities must be provided on all of above facilities and tests made. This determination pertains to a plant modernization or reconstruction and involves the change from a wet process to a dry process. There is no increase in production capability. There is a reduction in fuel consumption requirements from 5x10^6 BTU/ton of cement produced to 3.05x10^6 BTU/ton. Six (6) kilns are to be retired and replaced with one new

NOTES CONTINUED - PAGE 3

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

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CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

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FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from (on)/off site; fugitive/(point) source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. Offsets achieved were not required by federal interpretive ruling since there was no increase in source size. Offsets required by local regulations. Change in process (wet to dry), use of precalciner and a suspension heater resulted in emission reductions of 2685 ton/yr SO_2, 2523 ton/yr NO_x, 357 ton/yr CO and 22 ton/yr HC. The method of SO_2 control is use of a suspension preheater in which exhaust SO_2 contacts incoming alkaline raw materials and thus acts as a dry scrubber with 85% collection efficiency. NO_x emission reduction is achieved by burning approximately half the total system fuel in the precalciner at temperatures substantially below that of the kiln. CO and HC reduction occurs through the use of approximately 60% less fuel in the dry versus the wet process and through use of more efficient

NOTES CONTINUED - Page 4

BACT/LAER CLEARINGHOUSE REPORT (8.6)

SOURCE TYPE/SIZE: PORTLAND CEMENT PLANT 1.6x10^6 TON/YEAR

NAME/ADDRESS: KAISER CEMENT AND GYPSUM CORPORATION, PERMANENTE, CA

DETERMINATION DATA: CONDITIONAL (FINAL) PENDING for BACT (LAER) on NEW/MODIFIED SOURCE (RECONSTRUCTED)

KEY DATES: Application-Recd. 3/78, Completed ; Determination-Proposed , Final 11/78

BY: (Agency) BAY AREA AIR POLLUTION CONTROL DIST. Person DAN GOALWIN Phone (415) 771-6000

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
1. Crushing/screening	500 ton/hr	(PM)	0.0097 gr/dscf (AIP)	Fabric filter (18,000 CFM)	99+
			(1.5 lb/hr)		
2. "A" Transfer station	600 ton/hr	(PM)	0.0097 gr/dscf (AIP)	Fabric filter (2,500 CFM)	99+
			(0.2 lb/hr)		
3. "B" Transfer station	500 ton/hr	(PM)	0.0097 gr/dscf (AIP)	Fabric filter (4000 CFM)	99+
			(0.3 lb/hr)		
4. Pre-blend building	500 ton/hr	(PM)	as for source (3)	Fabric filter (4000 CFM)	99+
5. Pre-blend transfer	500 ton/hr	(PM)	as for sources (3)	Fabric filter (4000 CFM)	99+
			and (4)		

SOURCE OPERATION: BATCH/CONTINUOUS: hrs/yr; % by Season W Sp Su F

NOTES: kiln and a new (replacement) clinker cooler is to be installed. New fabric filter collectors on all new facilities. New fabric filter systems on five (5) existing process operations that are not being replaced (raw materials crushing/screening, two transfer stations, pre-blend building and pre-blend transfer operations). The present controls are water sprays - replacement is with fabric filter systems. The overall decrease in emissions is as follows: PM - 214 ton/yr (53% reduction); SO_2 - 2685 ton/yr (56%); NO_x - 2523 ton/yr (33%); CO - 357 ton/yr (93%); HC - 22 ton/yr (59%)

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER? SEE BELOW Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC.

SOURCE NO.	CFM	AIR TO CLOTH RATIO (A/C)	FILTER AREA - SQ.FT.
1	18,000	5	3600
2	2,500	5	500
3	4,000	5	800
4	4,000	5	800
5	4,000	5	800

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA

µm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. combustion equipment. PM reduction achieved by use of new fabric filter systems on all PM emission sources including replacement of water spray controls with fabric filter collectors.

BACT/LAER CLEARINGHOUSE REPORT (8.6)

SOURCE TYPE/SIZE: PORTLAND CEMENT PLANT 1.6x10^6 TON/YEAR

NAME/ADDRESS: KAISER CEMENT AND GYPSUM CORPORATION, PERMAMENTE, CA

DETERMINATION DATA: CONDITIONAL (FINAL) PENDING for BACT (LAER) on NEW/MODIFIED SOURCE (RECONSTRUCTED)
KEY DATES: Application-Recd. 3/78, Completed ____; Determination-Proposed ____, Final 11/78

BY: (Agency) BAY AREA AIR POLLUTION CONTROL DIST. Person DAN GOALWIN Phone (415) 771-6000

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
6. Feeder, pre-blend	250 ton/hr	(PM)	0.0097 gr/dscf (AIP)	Fabric filter (10,000 CFM)	99+
feeder			(1.34 lb/hr)		
7. Admix, bins and	250 ton/hr	(PM)	0.0097 gr/dscf (AIP)	Fabric filter (16,000 CFM)	99+
feeder			(1.34 lb/hr)		
8. Kiln and raw mills	350 ton/hr	(PM)	0.02 gr/dscf	Fabric filter (380,000 CFM)	99+
1 and 2			(36 lb/hr)		
9. Raw mill products,	450 ton/hr	(PM)	0.01 gr/dscf (AIP)	Fabric filter (20,000 CFM)	99+
blending, storage			(1.8 lb/hr)		
10. Kiln feed, materials	350 ton/hr	(PM)	0.01 gr/dscf (AIP)	Fabric filter (12,000 CFM)	99+
handling			(1.1 lb/hr)		

SOURCE OPERATION: BATCH/CONTINUOUS: ____ hrs/yr; % by Season ____ (W) ____ (Sp) ____ (Su) ____ (F)

NOTES: ____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER (SEE BELOW) Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC.

SOURCE NO.	CFM	AIR TO CLOTH RATIO (A/C)	FILTER AREA - SQ. FT.
6	10,000	5	2,000
7	10,000	5	3,200
8	384,000	5	76,800
9	20,000	5	4,000
10	12,000	5	2,400

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA

µm	% <	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT

(8.6)

SOURCE TYPE/SIZE: PORTLAND CEMENT PLANT 1.6x10^6 TON/YEAR

NAME/ADDRESS: KAISER CEMENT AND GYPSUM CORPORATION, PERMANENTE, CA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on NEW/MODIFIED SOURCE (RECONSTRUCTED)

KEY DATES: Application-Recd. 3/78, Completed ____; Determination-Proposed ____, Final 11/78

BY: (Agency) BAY AREA AIR POLLUTION CONTROL DIST. Person DAN GOALWIN Phone (415) 771-6000

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
11.Clinker cooler [b]	250 ton/hr	(PM)	0.006 gr/dscf (AIP)	Fabric filter (200,000 CFM)	99+
			(5.3 lb/hr)		
12 Clinker silo discharge to finish mill	250 ton/hr	(PM)	0.009 gr/dscf (AIP)	Fabric filter (10,000 CFM)	99+
			(1.6 lb/hr)		
13.Clinker handling, cooler to storage	250 ton/hr	(PM)	0.009 gr/dscf	Fabric filter (10,000 CFM)	99+
			(0.8 lb/hr)		
14.Coal mill No. 1	16 ton/hr	(PM)	0.01 gr/dscf (AIP)	Fabric filter (24,000 CFM)	99+
			(2.2 lb/hr)		
15.Coal mill No. 2	16 ton/hr	(PM)	- as for source (11)	Fabric filter (24,000 CFM)	99+
			- as for source (11)		

SOURCE OPERATION: BATCH/CONTINUOUS: ____ hrs/yr; % by Season ____ W ____ Sp ____ Su ____ F

NOTES: [b] Source (clinker cooler) subject to NSPS. Allowable under NSPS is 32.5 lb/hr. Source achieves 5.3 lb/hr (16% of NSPS value).

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s,

Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

SEE BELOW Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC.

SOURCE NO.	CFM	AIR TO CLOTH RATIO (A/C)	FILTER AREA - SQ. FT.
11	200,000	3	66,400
12	20,000	5	4,000
13	10,000	5	2,000
14	24,000	5	4,800
15	24,000	5	4,800

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT (8.6)

SOURCE TYPE/SIZE: PORTLAND CEMENT PLANT 1.6x10^6 TON/YEAR

NAME/ADDRESS: KAISER CEMENT AND GYPSUM CORPORATION, PERMAMENTE, CA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on NEW/MODIFIED SOURCE (RECONSTRUCTED)
KEY DATES: Application-Recd. 3/78, Completed ____; Determination-Proposed ____, Final 11/78

BY: (Agency) BAY AREA AIR POLLUTION CONTROL DIST. Person DAN GOALWIN Phone (415) 771-6000

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
16. Lime storage bin	250 ton/hr	(PM)	0.0089 gr/dscf (AIP)	Fabric filter (4000 CFM)	99+
			(0.3 lb/hr)		

SOURCE OPERATION: BATCH/CONTINUOUS: ____ hrs/yr; % by Season ____ (W) ____ (Sp) ____ (Su) ____ (F)

NOTES: ____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s,
Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
SEE BELOW Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC.

SOURCE NO.	CFM	AIR TO CLOTH RATIO (A/C)	FILTER AREA - SQ. FT.
16	4,000	5	800

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT (8.6)

SOURCE TYPE/SIZE: PORTLAND CEMENT PLANT 2750 TON/DAY

NAME/ADDRESS: GENERAL PORTLAND CEMENT, NEW BRAUNFELS, TX

DETERMINATION DATA: CONDITIONAL (FINAL) PENDING for BACT (LAER) on (NEW) MODIFIED SOURCE
KEY DATES: Application-Recd. 12/16/77, Completed 12/16/77; Determination-Proposed _____, Final 8/18/78
BY: (Agency) TEXAS AIR CONTROL BOARD Person M. AGUIRRE Phone (512) 451-5711

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
1. Limestone Storage bldg.		85.6 lb/h (PM)	2.14 lb/h (A)	Fabric filter	99.75
2. Clay crusher and		(PM)	0.3 lb/h (A)	Fabric filter	99.9
transfer points					
3. Iron ore bin and		(PM)	0.3 lb/h (A)	Fabric filter	99.9
transfer points					
4. Limestone and clay		(PM)	0.9 lb/h (A)	Fabric filter	99.9
bins/transfer points					
5. Blending silos/		(PM)	2.1 lb/h (A)	Fabric filter	99.9
transfer points					
6. Kiln feed system		(PM)	0.5 lb/h (A)	Fabric filter	99.9

SOURCE OPERATION: BATCH/CONTINUOUS: 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: _____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT. N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ____in. H_2O; Inlet Vel. = ____ft/s;
Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER (SEE BELOW) Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC.

SOURCE NO.	ACFM AT °F	CLEANING MODE	FABRIC	ΔP in H_2O	A/C - ft/s
1	25000 at 72	Pulse jet	Polyester	6	6.5
2	2000 at 70	Pulse jet	Polyester	6	5.05
3	2000 at 70	Pulse jet	Polyester	6	5.05
4	6500 at 70	Pulse jet	Polyester	6	5.62
5	16000 at 170	Pulse jet	Polyester	6	5.94
6	3500 at 150	Pulse jet	Polyester	6	6.06

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV _____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - (PM)/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/(off) site; fugitive/(point) source; Amount-reqd. 950 T/Y; Achieved 1013 T/Y

EXPLANATORY REMARKS, NOTES, ETC. Achieved by installing fabric filters on a rock crushing operation next door.

BACT/LAER CLEARINGHOUSE REPORT (8.6)

SOURCE TYPE/SIZE: PORTLAND CEMENT PLANT 2750 TON/DAY

NAME/ADDRESS: GENERAL PORTLAND CEMENT, NEW BRAUNFELS, TX

DETERMINATION DATA: CONDITIONAL (FINAL) PENDING for BACT (LAER) on (NEW) MODIFIED SOURCE
KEY DATES: Application-Recd. 12/16/77, Completed 12/16/77; Determination-Proposed _____, Final 8/18/78

BY: (Agency) TEXAS AIR CONTROL BOARD Person M. AGUIRRE Phone (512) 451-5711

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
7. Clinker transfer to bucket conveyor		(PM)	0.9 lb/h (A)	Fabric filter	99.9
8. Clinker hopper and transfer points		(PM)	0.5 lb/h (A)	Fabric filter	99.9
9. Clinker silo and transfer points		(PM)	1.8 lb/h (A)	Fabric filter	99.9
10. Clinker and gypsum silo and transfer		(PM)	1.8 lb/h (A)	Fabric filter	99.9
11. Clinker storage building		(PM)	2.14 lb/h (A)	Fabric filter	97.5

SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season _____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES: _____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER (SEE BELOW) Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC.

SOURCE NO.	ACFM AT °F	CLEANING MODE	FABRIC	Δ P IN H_2O	A/C - ft/s
7	6500 at 250	Pulse jet	Polyester	6	5.62
8	3500 at 210	Pulse jet	Polyester	6	6.06
9 and 10	10000 at 250	Pulse jet	Polyester	6	6.5
11	25000 at 70	Pulse jet	Polyester	6	6.5

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

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BACT/LAER CLEARINGHOUSE REPORT

8.6

SOURCE TYPE/SIZE: PORTLAND CEMENT PLANT 2750 TON/DAY

NAME/ADDRESS: GENERAL PORTLAND CEMENT, NEW BRAUNFELS, TX

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 12/16/77, Completed 12/16/77; Determination-Proposed _____, Final 8/18/78
BY: (Agency) TEXAS AIR CONTROL BOARD Person M. AGUIRRE Phone (512) 451-5711

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
12. Finishing mill		(PM)	7.21 lb/h (A)	Fabric filter	99.9
13. Finish mill transfer points		(PM)	0.9 lb/h (A)	Fabric filter	99.9
14. Kiln					
		(SO_2)	499 lb/h (B)	Electrostatic Precipitator	99.9
		(NO_x)	131 lb/h (B)		
15. Clinker cooler		(PM)	19.92 lb/h (N)	Gravel bed filter	97.9
16. Fugitives		(PM)	2.08 lb/h (A)	See note below	

SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season _____ W _____ Sp _____ Su _____ F

NOTES: Source 16: Fugitive dust control program includes road paving and cleaning, covering of conveyor belts, enclosure.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture 100, Collection 99.9, Overall 99.9 %

ACFM 225,000 (SOURCE 14) at 195 °F System cost ($): Capital _____, Operating _____/Year

CYCLONES: Type _____; Tubes: No. _____, D = _____ in., L = _____ ft; ΔP = ____ in. H_2O; Inlet Vel. = ____ ft/s,
Other: _____

ESP: (SOURCE 14) Type _____; Total plate area = 21,488 ft^2; SCA = 95.5 ft^2/1000 ACFM; L/W ratio = 3.44
Linear vel. = 3.5 ft/s; Other _____

FABRIC FILTER (SEE BELOW) Type _____ Cleaning Mode: _____ Fabric: _____ ΔP = _____ in. H_2O;
Filter vel. (A/C) = _____ ft/s; Other _____

SCRUBBER: Type _____; L/G = _____ gal/1000 ACFM; ΔP = ____ in. H_2O; Liquid used _____
Other: _____

AFTERBURNER: Temp. = _____ °F; Residence Time = _____ s; L/D: _____ Other: _____

OTHER TYPE CONTROLS/REMARKS/ETC.

SOURCE NO.	ACFM AT °F	CLEANING MODE	FABRIC	ΔP IN H_2O	A/C - ft/s
12	- -	Pulse jet	Polyester	6	6.34
13	6500 at 70	Pulse jet	Polyester	6	5.62
14	(See above)				
15	Gravel bed filter: 220,000 ACFM at 370°F, 97.9% efficiency, 14 units, double bed 110" diameter, ΔP = 10" H_2O				

FUEL PARAMETERS: Type _____; ____ % A; _____ % S; HV _____ BTU/lb-gal-CF; Use Rate _____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
µm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER _____

Off-set from on/off site; fugitive/point source; Amount-reqd. _____ T/Y; Achieved _____ T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT

8.6

SOURCE TYPE/SIZE: BULK CEMENT TERMINAL 600,000 TONS PER YEAR

NAME/ADDRESS: PACIFIC COAST CEMENT CORPORATION, PORT OF LONG BEACH, PIER D, LONG BEACH, CA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 1/5/79, Completed ; Determination-Proposed 12/17/79, Final 1/31/80

BY: (Agency) SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, CA Person GENE HOCKMAN Phone (213) 572-6213

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Cement unloader	600 ton/h	420 lb/h (PM)	0.6 lb/h	Fabric filter	99.9+
Storage bins (6) and		210 lb/h (PM)	0.3 lb/h	Fabric filter	99.9+
truck loading station					
Cement handling		764 lb/h (PM)	1.1 lb/h	Enclosed conveyors and two	99.9+
screw/belt conveyors				(2) fabric filters	
and bucket elevators					

SOURCE OPERATION: BATCH/(CONTINUOUS) 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: Bulk carriers (ships) to fire fuel with no greater than 0.25% by weight sulfur; limited to burning of 120,000 gallons per year for all ships.

Terminal emissions to be limited to a maximum of 25.6 ton/yr NO_x, 2.6 ton/yr HC, 3 ton/yr SO_2, 5.7 ton/yr PM.

A log must be kept of incoming/outgoing ships, route traveled, quantities unloaded, etc.

Limited to four (4) bulk carriers/month and must be less than 40,000 dead weight ton (DWT) size.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ____in. H_2O; Inlet Vel. = ____ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type (SEE BELOW) Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC. Source 1: Mikro-Pulsaire Model 16S-8-30, 1200 CFM, 151 sq.ft. filter, A/C = 7.9
Source 2: Mikro Pulsaire Model 144S-8-20, 9200 CFM, 1350 sq.ft. filter, A/C = 6.78, cost = $24,000
Source 3: Two systems - each is: Mikro-Pulsaire Model 25S-8-30, 236 sq. ft. filter; A/C = 5, Cost = $6000 each.

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FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. The applicant to achieve off-site emission offsets in the amount and manner specified in the following: From Long Beach Oil Development Co., (LBOD) - acquire 146 ton/yr NO_x and 3.7 ton/yr HC reduction by furnishing to LBOD four (4) NO_x reduction catalytic/oxidizing systems (90% control) for use on four existing 500 HP internal combustion engines at LBOD. From U.S. Steel (USS) - acquire 9.1 ton/yr SO_x reduction by providing USS with 12,350 bbls/yr of 0.5% S content fuel oil for use in open hearth furnaces as replacement for higher sulfur fuel oil used at present. From area dry cleaning establishments: - acquire 3.7 ton/yr HC reduction by supplying one or more dry cleaners with 90% efficient carbon absorption units. (Note: Offset ratios required are 2 to 1). The above reductions are necessary to offset the HC, NO_x, SO_2 generated by fuel use of ships/tugboats while in transit.

LAER - ADDITIONAL DETERMINATIONS - MINERAL PRODUCTS INDUSTRIES 8.0
(PORTLAND CEMENT - 8.6)

NAME - LOCATION	DESCRIPTORS	AGENCY

8.7

BACT

BACT/LAER CLEARINGHOUSE REPORT

(8.7)

SOURCE TYPE/SIZE: ELECTRODE MANUFACTURING PLANT

NAME/ADDRESS: AIRCO SPEER CARBON-GRAPHITE, ST. MARY'S, PENNSYLVANIA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on NEW/(MODIFIED) SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 5/16/79
BY: (Agency) EPA REGION III Person EILEEN GLEN Phone 597-8187

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE,* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Electric Baking Kilns	75 MLBS/Yr	PM	2.34 lb/h	a	
		SO_2	.60 lb/h		
		CO	.10 lb/h		
		Gaseous HC	.014 lb/h		
Graphitizing Furnaces	15,900 ton/yr	TSP	18.3 lb/h	Hoods	
		SO_2	30.5 lb/h		
		CO	545.0 lb/h		
		H_2S	5.3 lb/h		
Special Stack	-	SO_2	55.3 lb/h	b	
Coke Drying	1,716 ton/yr	PM	3.61 lb/h	Fabric filter	

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES: a PM to be controlled by incineration to a .04 gr/dscf exit grain loading.
b Fuel to be 2% sulfur or less.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

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FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT

(8.7)

SOURCE TYPE/SIZE: ELECTRODE MANUFACTURING PLANT

NAME/ADDRESS: AIRCO SPEER CARBON-GRAPHITE, ST. MARY'S, PENNSYLVANIA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on NEW/(MODIFIED) SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 5/16/79

BY: (Agency) EPA REGION III Person EILEEN GLEN Phone 597-8187

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Coke Screening	13,509 ton/yr	PM	2.74 lb/h	Fabric filter	
Pitch Impreg. Process	36 MLBS/h	Opacity	10% or less	Oil cooling system with	
				condenser	
Electrode Finishing	39.6 MBLS/yr	Opacity	10% or less	Fabric filter	

SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season _____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES: _____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT Page 1 of 2 pages (8.7)

SOURCE TYPE/SIZE: ASPHALT ROOFING PLANT

NAME/ADDRESS: GAF CORPORATION, WAYNE, NJ Site at Fontana, CA

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 10/3/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IX
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Limestone storage silo		TSP	0.13 lb/hr	Bag collector	
Talc storage silo		TSP	0.13 lb/hr	Bag collector	
Sand storage silo		TSP	0.08 lb/hr	Bag collector	
Talc use bin		TSP	0.02 lb/hr	Bag collector	
Sand use bin		TSP	0.02 lb/hr	Bag collector	
Limestone use bin		TSP	0.06 lb/hr	Bag collector	

NOTES: Fuel usage limited to 325 gal/day. Sulfur content shall not exceed 0.5%

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT Page 2 of 2 pages (8.7)

SOURCE TYPE/SIZE: ASPHALT ROOFING PLANT

NAME/ADDRESS: GAF CORPORATION, WAYNE, NJ Site at Fontana, CA

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 10/3/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IX (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Roofing machine:					
Surfacing and winding sections		TSP	3.43 lb/hr	Bag collector	
Unwind and festoon sections		TSP	1.72 lb/hr	Bag collector	
Hot asphalt storage tanks		TSP	0.17 lb/hr	ESP	
No.1 Blow still fume control		TSP	0.16 lb/hr	HEAF Unit	
No.2 Blow still fume control		TSP	0.16 lb/hr	HEAF Unit	
Timberline process		TSP	0.04 lb/hr	ESP	
Asphalt fume control		TSP	3.0	ESP	

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

(8.7)

SOURCE TYPE/SIZE: MINERAL WOOL INSULATION MANUFACTURING FACILITY — 7.0 TON/HOUR MINERAL WOOL

NAME/ADDRESS: ABC MANUFACTURING COMPANY, CASA GRANDA, AZ

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 2/1/79 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IX (Agency) _____ (Person) _____ (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Cupola furnace	13,700 lb/hr	TSP	2 lb/hr	Fabric filter	
	(Charge rate)	CO	55.6 lb/or 2,000		
			ppm		
Blow chamber		TSP	10.8 lb/hr		

NOTES: Operation of cupola furnace restricted to 300 days/year. Facility is not a major source as long as permit conditions are met. Natural gas consumption in blow chamber afterburner shall not exceed 76.6 ft^3 per minute.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT - ADDITIONAL DETERMINATIONS - MINERAL PRODUCTS INDUSTRIES 8.0
(OTHER - 8.7)

NAME - LOCATION	DESCRIPTORS	AGENCY
Stackpole Carbon Company St. Marys, PA	Calcining ovens	EPA RO III
Locher Brick Works Lynchburg, VA	70,000 ton/yr bricks - grinders, materials handling, kiln	EPA RO III

3.7

LAER

LAER - ADDITIONAL DETERMINATIONS - MINERAL PRODUCTS INDUSTRIES 8.0
(OTHER - 8.7)

NAME - LOCATION	DESCRIPTORS	AGENCY

9.0 PETROLEUM INDUSTRY

9.1 Petroleum refining

9.1

BACT

BACT/LAER CLEARINGHOUSE REPORT (9.1)

SOURCE TYPE/SIZE: OIL FIELD

NAME/ADDRESS: TEXFEL PETROLEUM CORPORATION, LOS ANGELES, CA Site at Kern County, CA

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 6/23/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IX (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Steam generator (for steam response well use)	50×10^6 Btu/hr	SO_2	0.094 lb/10^6 Btu (B)	Scrubber (Fuel limited to 190 bbl/day of oil with less than 1.13% sulfur)	96
Oil wells (9)		HC	1.9 lb/day per well (B)	HC vapor recovery system on 17 existing and 9 new wells	85

NOTES: Permit states this is not a major source and is exempt from air quality impact analysis. PSD requirements are satisfied if conditions of permit are met.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT (9.1)

SOURCE TYPE/SIZE: PETROLEUM REFINERY

NAME/ADDRESS: HILL PETROLEUM COMPANY, KROTZ SPRINGS (ST. LANDRY), LA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on NEW/(MODIFIED) SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 5/7/79
BY: (Agency) REGION VI Person JOHN BUNYAK Phone (214) 767-2742

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE*-UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Petroleum Liquid Storage tanks (below 11.1 Psia)		HC	(B)	External floating roof tanks with double seals	
Petroleum Liquid Storage tanks (above 11.1 Psia)		HC	(B)	Pressure vessels with vapor balancing	
Petroleum liquid pumps		HC	(B)	Double mechanical seals	
Petroleum Liquid barges		HC		Submerged fill lines	
Reformer charge heater	100×10^6 Btu/hr	NO_x	a $0.061\ \#/10^6$ Btu(B)	Low NO_x burners	
			b $.043\ \#/10^6$ Btu(B)	With flue gas monitor	

SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season ____ W ____ Sr ____ Su ____ F

NOTES: a When burning Area 2 gas.
b When burning propane.
All control strategies considered to represent BACT

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate
** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT (9.1)

SOURCE TYPE/SIZE: PETROLEUM REFINERY

NAME/ADDRESS: HILL PETROLEUM COMPANY, KROTZ SPRINGS (ST. LANDRY), LA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on NEW/(MODIFIED) SOURCE
KEY DATES: Application-Recd. _____, Completed _____; Determination-Proposed _____, Final 5/7/79
BY: (Agency) REGION VI Person JOHN BUNYAK Phone (214) 767-2742

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
		CO	[a] 4.0#/10^6 Btu (B)	Flue gas oxygen monitor	
			[b] 1.5#/10^6 Btu (B)		
Hydrotreater Charge	18x10^6 Btu/hr	NO_x	[a] 0.061 #/10^6 Btu (B)	Flue gas oxygen monitor	
Heater		CO	4.0 #/10^6 Btu (B)	and low NO_x burner	
Hydrotreater Stabilizer	13.6x10^6 Btu/hr	NO_x	[a] 0.061#/10^6 Btu (B)	Flue gas oxygen monitor and	
Reboiler			[b] 0.043#/10^6 Btu (B)	low NO_x burner	
		CO	[a] 4.0 #/10^6 Btu (B)		
			[b] 1.5 #/10^6 Btu (B)		
Reformer Stablizer	13x10^6 Btu/hr	NO_x	[a] 0.061#/10^6 Btu (B)	Flue gas oxygen monitor	
Reboiler			[b] 0.043#/10^6 Btu (B)	and low NO_x burner	

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SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season _____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES: _____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

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FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT (9.1)

SOURCE TYPE/SIZE: PETROLEUM REFINERY

NAME/ADDRESS: HILL PETROLEUM COMPANY, KROTZ SPRINGS (ST. LANDRY), LA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on NEW/(MODIFIED) SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 5/7/79
BY: (Agency) REGION VI Person JOHN BUNYAK Phone (214) 767-2742

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE*, -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
		CO	[a] 4.0 #/10^6 Btu (B)	Flue gas monitor	
			[b] 1.5#/10^6 Btu (B)		
FBR Gasoline	15.5x10^6 Btu/hr	NO_x	0.061#10^6 Btu (B)	Flue gas monitor and	
Stabilizer reboiler		CO	4.0 #/10^6 Btu (B)	low NO_x burner	
Boiler	78x10^6 Btu/hr	NO_x	[a] 0.1 #/10^6 Btu (B)	Flue gas monitor and	
			[b] 0.11#/10^6 Btu (B)	low NO_x burner	
		CO	[a] 4.0 #/10^6 Btu (B)		
			[b] 1.5#/10^6 Btu (B)		

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SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ _____ _____ _____
W Sp Su F

NOTES:_____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: PETROLEUM REFINERY 10,000 bbl/day

NAME/ADDRESS: PLACID REFINING COMPANY, DALLAS, TX Site at Nacitoches Parish, LA

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 10/23/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION VI
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Heater		SO_2	15.7 lb/hr (B)	SO_2 control - use of low	
		HC	0.9 ton/yr (B)	sulfur fuel from topping	
Boiler		SO_2	12.5 lb/hr (B)	facility (< 0.45%)	
		HC	0.7 ton/yr (B)		
Flare		SO_2	0.04 lb/hr (B)	HC control - floating	
		HC	0.035 ton/yr (B)	roof tanks, smokeless	
Storage tanks		HC	45.9 ton/yr)B)	flare, covered oil/water	
				separation equip., mechanical	

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

(9.1)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: PETROLEUM REFINERY 10,000 bbl/day

NAME/ADDRESS: PLACID REFINING COMPANY, DALLAS, TX Site at Nacitoches Parish, LA

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 10/23/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION VI
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Truck loading		HC	5.5 ton/yr (B)	pump seals, use of air	
				cooling, line flushing	
Miscellaneous		HC	26 ton/yr (B)		

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

(9.1)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: PETROLEUM REFINERY

NAME/ADDRESS: BEACON OIL COMPANY, HANFORD, CA Site at Hanford, CA

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 9/19/78 BASIS:* BACT[1]/LAER/(BACT)[2]
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IX
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Crude unit	5,000 bbl/day	SO_2	27.3 ton/yr	Total heat input of new fired	
Naptha hydro-desulfur-	5,000 bbl/day	NO_2	74.5 ton/yr	equipment restricted to	
ization unit		TSP	4.87 ton/yr	79.6×10^6 Btu/hr	
Naptha reformer	2,000 bbl/day	CO	6.14 ton/yr		
		HC	7.69 ton/yr		
Sulfur removal system	1.69×10^6 SCFD	SO_2	22.6 ton/yr; 5.16 lb/	Plant efficiency with 94%+ caustic	
			hr (2 hr avg.)	scrubber with efficiency of 58%	

NOTES: All figures are emission limits for 1985 operation (figures for 1980 also given in permit). Source exempted from increment and BACT analysis for SO_2 due to allowable emissions of less than 50 tons/year.

(See addendum for emission reduction list and additional requirements)

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: PETROLEUM REFINERY

NAME/ADDRESS: BEACON OIL COMPANY, HANFORD, CA Site at Hanford, CA

DETERMINATION IS: CONDITIONAL/FINAL/PENDING: DATE OF ISSUE: 9/19/78 BASIS:* BACT[1]/LAER/BACT[2]
FOR NEW/MODIFIED SOURCE

BY EPA REGION IX
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Sour water stripper	140 bbl/day				
Barrel tanks (2)	10,000 bbl. ea.	HC	0 (L)	Vapor recovery system	100
Barrel tank	20,000 bbl.	HC	0 (L)	Vapor recovery system	100
Cooling tower	600 gal/min.	HC	5.18 lb/day		

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

ADDITIONAL REQUIREMENTS:

Beacon shall install a floating cover on the existing gunnited holding pond. Beacon shall limit the flow of process waste water to 49.6 gal/min (annual average) and 54.5 gal/min.(24 hr avg). Beacon shall retain and maintain in operation the existing vapor recovery system on all product loading facilities of gasoline stocks or finished gasoline. Beacon shall not flare on a continuous or regular basis any process gases produced in any of the new equipment. Additional requirements on fuel usage and sulfur content.

EMISSION REDUCTIONS OF HC

Measure	Reductions (Tons/year)
Less fuel oil	1.2
Tanks-vapor recovery	516.9
Waste water measures	57.3
Less cooling water	0.3
Pump controls	48.9
Potential emissions	624.6
Net emission	283.6
Reductions	341.0

ALLOWABLE EMISSIONS FOR 1985 OPERATION FROM NEW EQUIPMENT

Pollutant	1985 Limit (tons/year)
SO_2	49.9
NO_2	74.5
TSP	4.87
CO	6.14
HC	44.9

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: PETROLEUM REFINERY — 22,000 BBL/DAY CRUDE OIL

NAME/ADDRESS: FLETCHER OIL AND REFINING COMPANY, CARSON, CA — Site at Carson, CA

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 9/6/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IX
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Floating roof storage		HC		Internal double seal	
tanks (8)				floating roofs	
Fixed roof tank		HC		Vapor recovery	
Truck loading		HC		Vapor recovery	
FCC Unit		TSP		Cyclones + ESP	
		CO	5.6 lb/hr (max 2 hr avg)		
Pumps		HC	510 lb/day	Mechanical seals	
Valves		HC	840 lb/day		

NOTES: Closed wastewater separators required. Detailed list of proposed equipment and requirements given in permit. S content of fuel limited to 0.1 gr/dscf. Applicant required to remove existing internal combustion engines, boilers and 7 storage tanks 180 days after start up.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: PETROLEUM REFINERY 22,000 BBL/DAY CRUDE OIL

NAME/ADDRESS: FLETCHER OIL AND REFINING COMPANY, CARSON, CA Site at Carson, CA

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 9/6/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IX
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Compressors		HC	150 lb/day		
Process heaters and boilers		NO_2	0.07 lb/10^6 Btu(2 hr avg)	Low NO_x burners or ammonia injection	
Existing heaters (4)	Limited to 423x10^6 Btu/hr of refinery gas only	NO_2	0.09 lb/10^6 Btu(2 hr avg)	required for all fuel gas combustion devices	
Sulfur recovery plant		SO_2	2.1 lb/hr (2 hr avg)	Shall receive all hydrogen sulfide gas recovered from refinery process	

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

(9.1)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: NATURAL GAS DESULFURIZATION PLANT

NAME/ADDRESS: ALKALI GULCH GAS PROCESSING PLANT (POLUMBUS CORPORATION) KLINE, CO

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 6/29/76 ** BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION VIII (Agency) _____ (Person) _____ (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
	5 mmcf/day of natural gas	SO_2	BACT defined as a 99% overall sulfur recovery	(Equipment not specified in permit but is described on reverse side of this sheet)	
			Install and operate SO_2 continuous monitoring on oxidizer stack		
			Maintain file of all measurements, quantity of gas handled, H_2S content recorded daily, malfunctions, etc.		

** NOTES: Permit modified on 2/28/78 because of violations. Additional conditions: Submit quarterly excess emission report, (6 hr avg. must be 99% removal); maintain and operate facility in good air pollution control practice. Adhere to operating procedures.

* Circle one. BACT-1 indicates determination made under pre-197/ amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

SULFUR AND SULFUR RECOVERY

Alkali Gulch Gas Process Plant (Polumbus Corporation)
Kline, CO

Capture of sulfur compounds will be accomplished using AMOCO Claus process followed by a Shell Claus off-gas treating unit. Sulfur removal efficiencies are calculated to be 95.6% and 94.9% respectively, resulting 99.8% overall removal efficiency. Residual H_2S emissions are converted to SO_2 in thermal oxidizer. Total emissions are calculated to be 46.3 tons SO_2/year if H_2S content averages 15%.

9.1

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: SULFUR RECOVERY PLANT (REFINERY)

NAME/ADDRESS: SKELLY OIL COMPANY, EL DORADO, KS

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 7/16/76 BASIS:* (BACT-1)/LAER/BACT-2
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION VII _____ _____
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Because emissions from the new sulfur recovery unit will be vented through a new incinerator, which provides a portion of the emission control for the affected facility, a SO_2 emission limit cannot be specified for the exhaust from the sulfur recovery unit. Also waste gases from processes other than the new Claus sulfur recovery unit will be treated in the new incinerator. It has been determined that it is unfeasible to specify an emission standard on the sulfur recovery unit. Thus, an equipment standard is being specified as a condition of approval of the application. The equipment shall consist of a 3 stage Claus sulfur recovery unit with tail-gas incineration.					
S Recovery Unit	120 tons of elemental sulfur/day		(95% efficiency estimated)		

NOTES: _____

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT - ADDITIONAL DETERMINATIONS - PETROLEUM INDUSTRY 9.0
(PETROLEUM REFINING - 9.1)

NAME - LOCATION	DESCRIPTORS	AGENCY
Ashland Petroleum Company Ashland, KY	Unknown - boiler, cat. reg.	EPA RO IV
Ashland Petroleum Company Catlettsburg, KY	Unknown - boiler, cat. reg. reformer	EPA RO IV
Hydrocarbon Development Corp. Natchez, MS	15,000 bbl/day - boiler, tank	EPA RO IV
Gulf Oil Corporation Belle Chasse, LA	89,000 bbl/day - boiler, cat. reg.	EPA RO VI
Sinclair Oil Corporation Sinclair, WY	Unknown - boiler	EPA RO VIII
Lake Charles Refining Company Lusk, WY	10,000 bbl/day - boiler, tank	EPA RO VIII
Manatee Energy Company Miami, FL	15,000 bbl/day - boiler, tank	EPA RO IV
Tosco Corporation Martinez, CA	20,000 bbl/day - reformer	EPA RO IX
Cascade Energy, Inc. Rainier, OR	Unknown - boiler	EPA RO X
Exxon Company Kern County, CA	25×10^6 Btu/h - boiler	EPA RO IX
Shell Oil Company Kern County, CA	50×10^6 Btu/h - boiler	EPA RO IX
Ashland Petroleum Company Ashland, KY	86×10^6 Btu/h - boiler, HF alkylation unit, fugitive HC	EPA RO IV
Semarck California, Inc. Kern County, CA	20,000 bbl/day - boiler, tanks, Claus plant	EPA RO IX
VIRCO St. Croix, U.S. VI	Unknown - boiler, tank	EPA RO II
Mitchell Energy Corp. Houston, TX	8000 BPD - heaters, compressor boiler, tanks, loading	EPA RO VI

BACT - ADDITIONAL DETERMINATIONS - PETROLEUM INDUSTRY 9.0
(PETROLEUM REFINING - 9.1)

NAME - LOCATION	DESCRIPTORS	AGENCY
Navajo Oil Company Artesia, NM	16,000 BPD - FCC regen., preheater	EPA RO VI
TEXACO Port Arthur, TX	FCCU	EPA RO VI
Cheyenne Refining San Patricio, TX	10,000 BPD - Topping plant, heater, boiler, tank, fugitives	EPA RO VI
Mt. Airy Refinery Mt. Airy, LA	30,000 BPD - boiler, heater, tanks, vacuum furnace	EPA RO VI
B. P. Nola Harvey, LA	30,000 BPD - heaters, boiler, flare	EPA RO VI
Carolina Refining Georgetown, SC	30,000 BPD - heaters, boilers, tanks, fugitives	State-SC
Southwest Refining Co. Corpus Christi, TX	FCC boiler, reboilers, tanks, preheaters, fugitives	EPA RO VI
Union Oil Company Beaumont, TX	Heaters	EPA RO VI
Ventech Refining Company Krote Springs, LA	Cat. Regen., sulfur recovery FCC unit heater, Vac. furnace	EPA RO VI

9.1

LAER

(9.1)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: PETROLEUM REFINERY 35,000 BBLS/DAY

NAME/ADDRESS: CHAMPLIN PETROLEUM COMPANY, 2402 E. ANAHEIM STREET, WILMINGTON, CA 90744

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on NEW/(MODIFIED) SOURCE
KEY DATES: Application-Recd. 6/79, Completed ; Determination-Proposed , Final 2/80

BY: (Agency) SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, CA Person HENRY CHATFIELD Phone (213) 572-6215

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Fluid catalytic crack-	300,000 BPD	45 lb/10^3 bbl (PM)	1.8 lb/10^3 bbl	[b]Three (3) stage internal	97+
ing (FCC) unit		(1800 lb/day)	(54 lb/day)	cyclone/electrostatic	
				precipitators (2)	
		493 lb/10^3 bbl (SO_2)	44 lb/10^3 bbl	[c]Desulfurized fuel, sulfur	50
			(1333 lb/day)	scavenging Zeolite catalyst	
		71 lb/10^3 bbl (NO_x)	13 lb/10^3 bbl	Hi-temp. catalyst regenera-	
			(402 lb/day)	tion	
		(CO)	2 lb/10^3 bbl	Hi-temp catalyst regenera-	
			(58 lb/day)	tion	
		(HC)	11 lb/day	[d]	

SOURCE OPERATION: BATCH/(CONTINUOUS) 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: Modification is in two phases. Phase I produces offsets that are utilized in the Phase II construction.

[a]Effluent gas limitations: 50 ppm CO, 42 ppm NO_x, 100 ppm SO_2, PM - 0.012 gr/SCFM, volume of 96,194,000 SCFD

[b]Catalyst handling systems enclosed - vacuum transport (PM control).

[c]FCC unit feed not to exceed 0.15% sulfur by weight.

[d]Enclosed sour water system (HC control).

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture 100, Collection 97, Overall 97+ %

ACFM 36,000 at 500 °F System cost ($): Capital _____, Operating _____/Year

CYCLONES: Type _____; Tubes: No. _____, D = _____ in., L = _____ ft; ΔP = ____ in. H_2O; Inlet Vel. = ____ ft/s;
Other: _____

(ESP) Type _____; Total plate area = _____ ft^2; SCA = _____ ft^2/1000 ACFM; L/W ratio = _____
(For FCC Unit) Linear vel. = _____ ft/s; Other _____

FABRIC FILTER: Type _____ Cleaning Mode: _____ Fabric: _____ ΔP = _____ in. H_2O;
Filter vel. (A/C) = _____ ft/s; Other _____

SCRUBBER: Type _____; L/G = _____ gal/1000 ACFM; ΔP = ____ in. H_2O; Liquid used _____
Other: _____

(AFTERBURNER) Temp. = 1050 °F; Residence Time = _____ s; L/D: _____ Other: Volume = 981 cu. ft. per hour.

OTHER TYPE CONTROLS/REMARKS/ETC. Afterburner is for vent gases from Beavon tail gas unit. Also required to have ammonia injection (Exxon DeNox system) for NO_x control. FCC regenerator effluent required to have gas monitoring system that measures gas flow, SO_2, and NO_x concentrations.

FUEL PARAMETERS: Type _____; ____ % A; _____ % S; HV _____ BTU/lb-gal-CF; Use Rate _____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER _____

Off-set from (on) (off) site; (fugitive) (point) source; Amount-reqd. _____ T/Y; Achieved _____ T/Y

EXPLANATORY REMARKS, NOTES, ETC. Amount required: PM 51.2 ton/yr Achieved: 64.7 ton/yr
CO 11.1 ton/yr 90.2 ton/yr
SO_2 213.0 ton/yr 246.0 ton/yr
HC 86.0 ton/yr 253.0 ton/yr

HC trade-off by: elimination of free water knockout ditch that had evaporative losses of 69.4 tons/yr; secondary seals on existing tanks; installation of closed drain system throughout refinery; wastewater treatment for HC removal. ADDITIONAL HC OFFSETS: The pipeline terminal facility in Colton, CA achieved 116 ton/yr reduction (634 lb/day) and was used as part of HC offset (CONTINUED ON PAGE 4).

(9.1)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: PETROLEUM REFINERY 35,000 BBLS/DAY

NAME/ADDRESS: CHAMPLIN PETROLEUM COMPANY, 2402 E. ANAHEIM STREET, WILMINGTON, CA 90744

DETERMINATION DATA: CONDITIONAL (FINAL) PENDING for BACT (LAER) on NEW (MODIFIED) SOURCE
KEY DATES: Application-Recd. 6/79, Completed ; Determination-Proposed , Final 2/80

BY: (Agency) SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, CA Person HENRY CHATFIELD Phone (213) 572-6215

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Gaoline loading rack	800 bbl/day	1680 lb/day (HC)	33.6 lb/day	Submerged fill/vapor recovery	98
				system to refinery gas supply	
				system	
Storage tanks (12)		(HC)	421.5 lb/day	Primary and secondary seals	
				on floating roofs	
Storage tanks (1)		(HC)		Fixed roof, pressure relief	
				valve, nitrogen blanket	

SOURCE OPERATION: BATCH/CONTINUOUS: hrs/yr; % by Season W Sp Su F

NOTES:

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ____in. H_2O; Inlet Vel. = ____ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

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FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. (CONTINUED FROM PAGE 2) The modification will make available an additional 6 MMCFD of pipeline quality gas for sale to (and distributed by) Southern California Gas Company that will reduce fuel oil use by 1000 BPD. The offsets obtained (gas vs. oil use) are HC - 86 lb/day, NO_x - 438 lb/day, SO_2 - 1615 lb/day, CO - 80 lb/day, PM - 195 lb/day. SO_2 Trade-off-Installation of Beavon tail gas unit to replace less efficient SCOT unit; installation of low temperature recovery unit to eliminate flaring of gas containing H_2S; sending sour water stripper gases to sulfur recovery rather than flare incineration; and sending all H_2S rich streams to sulfur recovery plant. NO_x off-set - existing heaters to be retrofitted with ammonia injection systems.

(9.1)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: PETROLEUM REFINERY 35,000 BBLS/DAY

NAME/ADDRESS: CHAMPLIN PETROLEUM COMPANY, 2402 E. ANAHEIM STREET, WILMINGTON, CA 90744

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on NEW/(MODIFIED) SOURCE
KEY DATES: Application-Recd. 6/79, Completed ____; Determination-Proposed ____, Final 2/80

BY: (Agency) SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, CA Person HENRY CHATFIELD Phone (213) 572-6215

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Gas fired heater (2)	35×10^6 Btu/h ea.	125 lb/day ea. (NO_x)	50 lb/day ea.	Lo-NOx burners, ammonia in-	
		11 lb/day ea. (SO)	11 lb/day ea.	jection Exxon Thermal Denox	60+
		12.5 lb/day ea. (CO)	12.5 lb/day ea.		
		17.6 lb/day ea. (PM)	17.6 lb/day ea.		
		(HC)	14 lb/day ea.		
Fugitive HC				Covered drains; pumps with	
				mechanical seals.	

SOURCE OPERATION: BATCH/CONTINUOUS: ____ hrs/yr; % by Season ____ (W) ____ (Sp) ____ (Su) ____ (F)

NOTES: ____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid usrd_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

OVERALL NET REDUCTIONS ACHIEVED: HC - 915 lb/day, NO_x - 261 lb/day, SO_2 - 3023 lb/day, CO - 164 lb/day, PM - 183 lb/day.

(9.1)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: REFINERY EXPANSION 16,000 BPD TO 41,260 BPD

NAME/ADDRESS: GOLDEN EAGLE REFINING COMPANY CARSON, CA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on NEW/(MODIFIED) SOURCE

KEY DATES: Application-Recd. 6/29/76, Completed 10/25/77; Determination-Proposed _____, Final 4/13/78

BY: (Agency) SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, CA Person HENRY CHATFIELD Phone (213) 572-6215

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Atmospheric crude unit	139.2×10^6 Btu/h	21.36 lb/day (HC)			
(oil fired)		498.00 lb/day (NO_x)	140.64 lb/day (B)	Low NO_x burners, NH_3 injec-	72
				tion	
		7.44 lb/day (SO_2)	10 ppm in oil (B)	Sulfur limitation	
		107.52 lb/day (CO)			
		48.96 lb/day (PM)			
Vacuum distillation unit	47.1×10^6 Btu/h	3.60 lb/day (HC)			
(gas-fired)		135.43 lb/day (NO_x)	37.93 lb/day (B)	Low NO_x burners; NH_3 injec-	72
				tion	
		8.88 lb/day (SO_2)			

SOURCE OPERATION: BATCH/(CONTINUOUS): 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: _____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC. Exxon Thermal De-NO_x Process is employed on all units with ratings over $40x10^6$ Btu/h. The system injects about 2 pounds of ammonia per pound of NO_x. All units employ Zink "Lo NO_x" burners providing about 50 percent reduction in NO_x emissions.

Fuel oil 0.0 % A 0.25 % S 140,000 Btu/gal.

FUEL PARAMETERS: Type Nat. gas ; - % A; - % S; HV 1060 BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - (PM) CO HC NO_x (SO_2) OTHER_____

Off-set from (on) off site; (fugitive) (point) source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. Removing existing refinery units from service. Offsets are:

EXISTING REFINERY	NEW EXPANSION:	NET REDUCTION (INCREASE)
HC = 499.66 lb/day	HC = 509.58 lb/day	HC = (9.92) lb/day
NO_x = 1731.12 lb/day	NO_x = 1162.08 lb/day	NO_x = 569.04 lb/day
SO_2 = 2150.20 lb/day	SO_2 = 150.24 lb/day	SO_2 = 1974.96 lb/day
CO = 150.72 lb/day	CO = 435.60 lb/day	CO = (284.88) lb/day
PM = 233.04 lb/day	PM = 358.80 lb/day	PM = (125.76) lb/day

(CONTINUED ON PAGE 4)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: REFINERY EXPANSION 16,000 BPD TO 41,260 BPD

NAME/ADDRESS: GOLDEN EAGLE REFINING COMPANY CARSON, CA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on NEW/(MODIFIED) SOURCE

KEY DATES: Application-Recd. 6/29/76 Completed 10/25/77; Determination-Proposed _____, Final 4/13/78

BY: (Agency) SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, CA Person HENRY CHATFIELD Phone (213) 572-6215

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
(continued from Page 1)		18.96 lb/day (CO)			
		18.72 lb/day (PM)			
Reboiler (gas-fired)	28.1×10^6 Btu/h	2.16 lb/day (HC)			
		76.80 lb/day (NO_x)	37.92 lb/day (B)	Low NO_x burners	50
		5.28 lb/day (SO_2)			
		11.28 lb/day (CO)			
		11.28 lb/day (PM)			
Power former (gas-	277×10^6 Btu/h	21.36 lb/day (HC)			
fired)		757.92 lb/day (NO_x)	336 lb/day (B)	Low NO_x burners, NH_3 injec-	56
				tion	

SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season _____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES: _____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. South Coast Air Quality Management District allows an increase up to 250 lbs/day over 10/8/76 emission levels for HC, NO_x, SO_2, and PM and up to 2500 lbs/day for CO. A condition of the permit also specifies that additional crude oil processed in the refinery will be obtained from domestic pipeline sources or from marine terminal and tanker operations that comply with BACT. BACT includes tanker operations in the impact zone (69 mile radius) using low sulfur fuel oils, segregated ballast, and flue gas inerting systems. Purging or gas-freeing of cargo compartments is prohibited.

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: REFINERY EXPANSION 16,000 BPD TO 41,260 BPD

NAME/ADDRESS: GOLDEN EAGLE REFINING COMPANY CARSON, CA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on NEW/(MODIFIED) SOURCE

KEY DATES: Application-Recd. 6/29/76, Completed 10/25/77; Determination-Proposed _____, Final 4/13/78

BY: (Agency) SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, CA Person HENRY CHATFIELD Phone (213) 572-6215

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
(continued from Page 3)		52.08 lb/day (SO_2)			
		112.08 lb/day (CO)			
		110.16 lb/day (PM)			
Recycle heater	82×10^6 Btu/h	6.24 lb/day (HC)			
(gas-fired)		224.40 lb/day (NO_x)	83.04 lb/day (B)	Low NO_x burners; NH_3 injec-	63
				tion	
		15.36 lb/day (SO_2)			
		33.12 lb/day (CO)			
		32.64 lb/day (PM)			

SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season _____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES: _____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT

(9.1)

SOURCE TYPE/SIZE: REFINERY EXPANSION 16,000 BPD TO 41,260 BPD

NAME/ADDRESS: GOLDEN EAGLE REFINING COMPANY CARSON, CA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on NEW/(MODIFIED) SOURCE

KEY DATES: Application-Recd. 6/29/76, Completed 10/15/77; Determination-Proposed _____, Final 4/13/78

BY: (Agency) SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, CA Person HENRY CHATFIELD Phone (213) 572-6215

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Fractionator reboiler	48.1x10^6 Btu/h	3.60 lb/day (HC)			
(gas-fired)		131.52 lb/day (NO_x)	38.88 lb/day (B)	Low NO_x burners; NH_3 injec-	70
				tion	
		9.12 lb/day (SO_2)			
		19.44 lb/day (CO)			
		19.20 lb/day (PM)			
Reformer heater	244.9x10^6 Btu/h	18.72 lb/day (HC)			
(gas-fired)		670.08 lb/day (NO_x)	396.0 lb/day (B)	Low NO_x burners, NH_3 injec-	41
				tion	
		45.84 lb/day (SO_2)			

SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season _____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES: _____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

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FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: REFINERY EXPANSION 16,000 BPD TO 41,260 BPD

NAME/ADDRESS: GOLDEN EAGLE REFINING COMPANY CARSON, CA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on NEW/(MODIFIED) SOURCE

KEY DATES: Application-Recd. 6/29/76, Completed 10/25/77; Determination-Proposed _____, Final 4/13/78

BY: (Agency) SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, CA Person HENRY CHATFIELD Phone (213) 572-6215

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
(continued from Page 7)		99.12 lb/day (CO)			
		97.44 lb/day (PM)			
Splitter reboiler	28.9×10^6 Btu/h	2.16 lb/day (HC)			
(gas-fired)		78.96 lb/day (NO_x)	38.88 lb/day (B)	Low NO_x burners	51
		5.52 lb/day (SO_2)			
		11.76 lb/day (CO)			
		11.52 lb/day (PM)			
Steam boiler	26.2×10^6 Btu/h	4.56 lb/day (HC)			
(oil-fired)		98.64 lb/day (NO_x)	NO_x 52.80 lb/day (B)	Low NO_x burners	46
		0.72 lb/day (SO_2)	10 ppm in oil (B)	Sulfur limitation	

SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season _____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES: _____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT (9.1)

SOURCE TYPE/SIZE: REFINERY EXPANSION 16,000 BPD TO 41,260 BPD

NAME/ADDRESS: GOLDEN EAGLE REFINING COMPANY CARSON, CA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on NEW/(MODIFIED) SOURCE

KEY DATES: Application-Recd. 6/29/76 Completed 10/25/77; Determination-Proposed _____, Final 4/13/78

BY: (Agency) SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, CA Person HENRY CHATFIELD Phone (213) 572-6215

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
(continued from Page 9)		22.32 lb/day (CO)			
		8.88 lb/day (PM)			
Storage tanks (3)		59.46 lb/day (HC)		Floating roof	75
Storage tanks (16)		6.36 lb/day (HC)		Cone roof vent to vapor	
				recovery	
Sulfur plant		96.72 lb/day (SO_2)	500 ppm (B)	Incinerator	
		(200 ppm)			
Fugitive losses		360.00 lb/day (HC)		(See Note)	

SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season _____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES: All relief valves, vents, steam-out lines, pumpout and blowdown lines will connect to a vapor recovery system. Pumps will be equipped with mechanical seals; high pressure pumps will have double seals.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

BACT/LAER CLEARINGHOUSE REPORT (9.1)

SOURCE TYPE/SIZE: PETROLEUM REFINERY EXPANSION 140,000 BARRELS/DAY

NAME/ADDRESS: EXXON CORPORATION, 3400 EAST SECOND STREET, BENICIA, CA 94510

DETERMINATION DATA: CONDITIONAL/FINAL (PENDING) for BACT (LAER) on NEW (MODIFIED) SOURCE
KEY DATES: Application-Recd. 2/78, Completed ____; Determination-Proposed ____, Final ____

BY: (Agency) BAY AREA AIR POLLUTION CONTROL DIST. Person DAN GOALWIN Phone (415) 771-6000

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Crude Distillation Unit					
Oil storage tanks (2)	214,000 bbl each			Double seal, floating roof	100
Gasoline storage tank	150,000 bbl			with vent to wet gas recovery	
				system	
Fluid coker	32,000 bbl/day			Flue gas desulfurization	95
Marketing terminal	2.4×10^6 bbl/day				
Catalytic reformer	31,000 bbl/day				
Marine vessels				Fully segregated ballasting	

SOURCE OPERATION: BATCH/CONTINUOUS: ____ hrs/yr; % by Season W ____ Sp ____ Su ____ F ____

NOTES: Refinery expansion from 100,000 to 140,000 barrels/day.
This determination is not final. The case is under litigation

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital 17,400,000, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE (CONTROLS)/REMARKS/ETC. Beavon Tail Gas Unit for sulfur dioxide control

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FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____ BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM (CO) (HC) (NO_x) (SO_2) OTHER_____

Off-set from (on)/off site; fugitive/(point) source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. HC Offset obtained by installing double seals on existing tanks and providing a directed maintenance program for fugitive emission sources (pump seals, compressors, etc.). NO_x Reduction (offset) by combustion modifications on existing furnace. SO_2 and CO offset by installation of Beavon Tail Gas Clean-up facilities on existing source.

OFF-SET DATA	REQUIRED - T/Y	ACHIEVED - T/Y
HC	292	511
SO_2	36.5	72.4
CO	438	657
NO_x	219	475

LAER - ADDITIONAL DETERMINATIONS - PETROLEUM INDUSTRY 9.0
(PETROLEUM REFINING - 9.1)

NAME - LOCATION	DESCRIPTORS	AGENCY
EXXON Corp. Benicia, CA	Tail gas sulfur recovery	Local-BAAPCD
MacMillan Ring Free Oil Company Carson, CA	40,000 bbl/day - tanks, fugitives, sulfur recovery, heaters	Local-SCAQMD
Ashland Petroleum Company Ashland, KY	70,000 bbl/day- heaters, reboilers.	State-KY
Shell Oil Company St. Charles, LA	$1.5x10^6$ ton/yr-olefin/gasoline sulfur recovery, boiler	State-LA
Fletcher Oil/Refining Company Carson, CA	10,000 bbl/day - FCC unit	Local-SCAQMD
Southwestern Refining Company Corpus Christi, TX	30,000 bbl/day - FCC unit heater	State - TX
Continental Oil Company Westlake, LA	160,000 bbl/day - expansion from 85,000 bbl/day	State-LA

10.0 Wood Processing

10.1 Chemical wood processing (pulp mills)

10.2 Other

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10.1

BACT

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: KRAFT PULP MILL PULPING CAPACITY 1034 TONS/DAY

NAME/ADDRESS: BOISE CASCADE, P.O. BOX 500, WALLULA, WA 99363

DETERMINATION IS: CONDITIONAL/FINAL/PENDING: DATE OF ISSUE: 2/24/78 BASIS:* BACT[1] /LAER/(BACT[2])
FOR NEW/MODIFIED SOURCE

BY EPA REGION X (Agency) LARRY SIMS AND PAUL BOYS (Person) (206) 442-1106 (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Recovery boiler (No.2)	238 ADT/day	TSP	0.44 gr/scf/476 (N)	ESP	99.5
	feed or 738,000[a]		lb/day		
		SO_2	160 ppm/5424 lb/day (B)	Impinger type wet scrubber	95
		Opacity	35% (N)		
Lime kiln	544 tons/day	TSP (gas)	0.067 gr/scf/466 (B)	Venturi scrubber	
			lb/day		
	or 847 ADT				

NOTES: [a] Pounds black liquor dry solids/day; ADT means Air Dried Tons.
Where no NSP requirement, state standards apply for opacity - 20%

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: KRAFT PULP MILL PULPING CAPACITY 1034 TONS/DAY

NAME/ADDRESS: BOISE CASCADE, P.O. BOX 500, WALLULA, WA 99363

DETERMINATION IS: CONDITIONAL/FINAL/PENDING: FOR NEW/MODIFIED SOURCE DATE OF ISSUE: 2/24/78 BASIS:* BACT[1]/LAER/(BACT[2])

BY EPA REGION X (Agency) LARRY SIMS AND PAUL BOYS (Person) (206) 442-1106 (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Lime kiln (continued)		TSP (oil)	0.12 gr/scf/906 lb/day (B)		
		Opacity	20% (S)		
		SO_2	5 ppm/19 lb/day (B)		
No.2 Dissolver vent	253 ADT	TSP	71 lb/day (N)	Chemico-type scrubber	
		Opacity	20% (S)		
Decker hood	200 ADT	TSP	0.01 ADT/2 lb/day (B)		
		Opacity	20% (S)		

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

(10.1)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: KRAFT PULP MILL PULPING CAPACITY 1034 TONS/DAY

NAME/ADDRESS: BOISE CASCADE, P.O. BOX 500, WALLULA, WA 99363

DETERMINATION IS: CONDITIONAL/FINAL/PENDING: DATE OF ISSUE: 2/24/78 BASIS:* BACT[1] LAER (BACT[2])
FOR NEW/MODIFIED SOURCE

BY EPA REGION X (Agency) LARRY SIMS AND PAUL BOYS (Person) (206) 442-1106 (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Hogfuel boiler	200,000 lb/hr	TSP	0.04 gr/scf/459 (B)	I.D. Zurn Air System,	
	steam		lb/day	type MTSA, two parallel	
		Opacity	20% (S)	impinger type scrubbers	
Power boiler	200,000 lb/hr	TSP	299 lb/day (B)		
gas-oil (major)	steam	SO_2	3025 lb/day (B)		
		Opacity	20% (S)		

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

(10.1)

SOURCE TYPE/SIZE: KRAFT PULP AND PAPER MILL, 700 T/D

NAME/ADDRESS: ST REGIS PAPER COMPANY, PENSACOLA, FLORIDA

DETERMINATION DATA: CONDITIONAL/FINAL/(PENDING) for (BACT)/LAER on NEW/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final_____
BY: (Agency) EPA REGION IV Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Wood chip belt conveyor	120 ton/h	TSP	[a] 0% opacity		
Digester/washer	750 t/day	TRS	5 ppm (N)	Vent to condensate stripper	
Liquor evaporation		TRS	5 ppm (N)	Vent to condensate stripper	
Condensate stripper		TRS	5 ppm (N)	Incinerate in lime calciner	
Lime calciner	63.5 ton/day	TSP	8.5 lb/h (N)	High energy scrubber	99.4
(fluidized bed)	of lime produced	SO_2	0.1 lb/h (source)	Lime absorption and scrubber	99.8
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SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ W _____ Sp _____ Su _____ F

NOTES: [a] Stated by source as achieved on existing unit

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:___ _____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT

10.1

SOURCE TYPE/SIZE: SEMICHEMICAL/KRAFT PULP MILL: 2194 TAD/D

NAME/ADDRESS: INTERNATIONAL PAPER COMPANY, PO BOX 160707, MOBILE, ALABAMA 36616

DETERMINATION DATA: CONDITIONAL/FINAL/PENDING for (BACT)/LAER on NEW/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final_____
BY: (Agency) U.S. EPA REGION VI Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Recovery furnaces (2)		SO_2	510 lb/h each (B)	Good process controls	
(straight kraft)		TRS	5 ppmv, at 8% O_2 (N)	Good process controls	
		CO	110 lb/h (B)	Good process controls	
		NO_x	88 lb/h (B)	Good process controls	
		PM	54.0 lb/h ea, and (N)	Electrostatic precipitators	99.7
			0.10 g/dscm at 8% O_2	with pneumatic rappers	
Power/Steam Boilers (2)					
Coal fired:	645x10^6 Btu/h max.	SO_2	[a] 1.2 lb/10^6 Btu, (N)	Low sulfur fossil fuels to	
			and 774 lb/h ea.	meet NSPS requirements.	

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ _____ _____ _____
W Sp Su F

NOTES: [a] Coal firing only
[b] 100% oil firing
[c] Firing fossil fuel with wood residue: proration is 1.2 lb/10^6 Btu for coal, 0.80 lb/10^6 Btu for oil, 0.24 lb/10^6 for wood contribution.
[d] Firing fossil fuels

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT (10.1)

SOURCE TYPE/SIZE: SEMICHEMICAL/KRAFT PULP MILL: 2194 TAD/D

NAME/ADDRESS: INTERNATIONAL PAPER COMPANY, PO BOX 160707, MOBILE, ALABAMA 36616

DETERMINATION DATA: CONDITIONAL/FINAL/PENDING for (BACT)/LAER on NEW/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final_____

BY: (Agency) U.S. EPA REGION VI Person_____ Phone_____

AFFECTED FACILITIES Power boilers (2) contd.	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Oil/coal/wood/fired	760x10^6 Btu/h max.	SO_2	[b] 0.80 lb/10^6 Btu, (N)		
			and 516 lb/h ea.		
		SO_2	[c]		
		PM	[d] 0.10 lb/10^6 Btu, (N)	single stage cyclone and	99.5
			and 64.5 lb/h ea.	electrostatic precipitator	
			[e] 0.10 lb/10^6 Btu,		
			and 76.0 lb/h ea.		
		NO_x	[f] 0.70 lb/10^6 Btu,	Flue gas O_2 monitoring with air/fuel	
			and 451.5 lb/hr ea.	control for low excess air firing; ~~staged combustion.~~	

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES: [e] When one of two (either) is firing wood residue at 60 ton/h.

[f] When firing 100% coal

[g] When firing 100% oil

[h] When firing fossil fuel plus wood proration to be according to 40 CFR 60.44(5)(b)

[i] When firing fossil fuel and wood, proration by 1 lb/ton coal; 2 lb/ton wood; 210 lb/10^3 bbl oil.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT

10.1

SOURCE TYPE/SIZE: SEMICHEMICAL/KRAFT PULP MILL: 2194 TAD/D

NAME/ADDRESS: INTERNATIONAL PAPER COMPANY, PO BOX 160707, MOBILE, ALABAMA 36616

DETERMINATION DATA: CONDITIONAL/FINAL/PENDING for (BACT)/LAER on NEW/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final_____
BY: (Agency) U.S. EPA REGION VI Person_____ Phone_____

AFFECTED FACILITIES Power boilers(2) contd.	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
		NO_2	[g] 0.30 lb/10^6 Btu, and 193.5 lb/h ea.		
		NO_2	[h]		
		CO	[f] 26 lb/h and 0.041 lb/10^6 Btu	Air/fuel control for efficient combustion by flue gas monitoring	
		CO	[g] 23.2 lb/h, and 0.036 lb/10^6 Btu		

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ _____ _____ _____
W Sp Su F

NOTES:_____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

BACT/LAER CLEARINGHOUSE REPORT (10.1)

SOURCE TYPE/SIZE: SEMICHEMICAL/KRAFT PULP MILL: 2194 TAD/D

NAME/ADDRESS: INTERNATIONAL PAPER COMPANY, PO BOX 160707, MOBILE, ALABAMA 36616

DETERMINATION DATA: CONDITIONAL/FINAL/PENDING for (BACT)/LAER on NEW/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final_____
BY: (Agency) U.S. EPA REGION VI Person_____ Phone_____

AFFECTED FACILITIES Power boilers(2)contd	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment types, etc.	Eff. %
		CO	130 lb/hr, and 0.17		
			$lb/10^6$ Btu,-1 lb/ton coal,		
			2 lb/ton wood and		
			210 $lb/10^3$ bbl oil.		
Lime Kiln		SO_2	29.9 lb/h (B)	Fires 0.7% S oil max. natural	
				suppression by quicklime	
				absorption, and caustic solu-	
				tion in TSP scrubber	
		CO	700 lb/h (B)	Good process controls	

SOURCE OPERATION: BATCH/CONTINUOUS: _____ hrs/yr; % by Season _____ (W) _____ (Sp) _____ (Su) _____ (F)

NOTES: _____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT (10.1)

SOURCE TYPE/SIZE: SEMICHEMICAL/KRAFT PULP MILL: 2194 TAD/D

NAME/ADDRESS: INTERNATIONAL PAPER COMPANY, PO BOX 160707, MOBILE, ALABAMA 36616

DETERMINATION DATA: CONDITIONAL/FINAL/PENDING for BACT/LAER on NEW/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final_____
BY: (Agency) U.S. EPA REGION VI Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Lime kiln (contd)					
		PM	61.1 lb/h (B)	Venturi scrubber with 28-30"	99.8
				pressure drop.	
		TRS	8 ppmv,dry, at 10% (N)	Good process controls and	
			O_2	incineration	
Dissolving Tanks (2)		PM	11.3 lb/h ea, and (N)	Water/fume impingement wet	99.8
			0.1 g/kg black liquor	scrubber	
			solids		
		TRS	5 ppmv, dry, at 8% (N)	Good process controls.	
			O_2		
Lime Slaker		PM	2 lb/h (B)	Water/fumeimpingement wet scrubber	99.5

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season W_____ Sp_____ Su_____ F_____

NOTES:_____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

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CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;

Other:_____

ESP: Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____

Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;

Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____

Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

477

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC._____

BACT - ADDITIONAL DETERMINATIONS - WOOD PROCESSING 10.0
(CHEMICAL WOOD PROCESSING [PULP MILLS] - 10.1)

NAME - LOCATION	DESCRIPTORS	AGENCY
Boise Southern Company Deridder, LA	535 tons/day - newsprint machine	EPA RO VI
Leaf River Forest Products New Augusta, MS	550 ton/day - boiler, smelt tank, lime kiln, black liquor furnace	EPA RO IV
Continental Forest Industries Port Wentworth, GA	800 ton/day - black liquor furnace, lime kiln, smelt tank	EPA RO IV
International Paper Company Gardinir, OR	1033 ton/day - lime kiln, boiler, smelt tank	EPA RO X
Boise Cascade St. Helens, OR	1150 ton/day - lime kiln	EPA RO X
Union Camp Corporation Autauga, AL	1223 ton/day - boiler, smelt tank, lime kiln	EPA RO IV
Federal Paperboard Reigelwood, NC	Unknown - boiler, black liquor furnace	EPA RO IV
Parsons and Whittemore Clairborne, AL	Unknown - boiler, black liquor furnace, lime kiln	EPA RO IV
Alabama River Pulp Company Clairborne, AL	Unknown - boiler, black liquor furnace, lime kiln	EPA RO IV
Union Camp Corporation Montgomery, AL	Unknown - smelt tank, black liquor furnace, boiler	EPA RO IV
Container Corporation of America Fernidina Beach, FL	Unknown - boiler, smelt tank	EPA RO IV
Tennessee River Pulp & Paper Mill Counce, TN	Unknown - black liquor furnace, boiler, smelt tank	EPA RO IV
Proctor and Gamble Georgia	1400 ton/day - boiler, lime kiln, smelt tank	EPA RO IV
Hoerner Waldorf Corporation Missoula, Montana	Unknown - boiler, lime kiln, smelt tank	EPA RO VIII
Carolina Kraft Corporation Bennettsville, SC	Unknown - black liquor furnace, lime kiln, smelt tank	EPA RO IV

BACT - ADDITIONAL DETERMINATIONS - WOOD PROCESSING 10.0
(CHEMICAL WOOD PROCESSING [PULP MILLS] - 10.1)

NAME - LOCATION	DESCRIPTORS	AGENCY
Continental Forest Industries Hopewell, VA	Unknown - boiler, black liquor furnace, smelt tank	EPA RO III
Georgia-Pacific Corporation Halifax, NC	700 ton/day - black liquor furnace, lime kiln, smelt tank	EPA RO IV
Kirby Forest Industries Bon Wier, TX	1000 ton/day - boilers, smelt tank, lime kiln and slaker	EPA RO VI
Georgia Kraft Company Rome, GA	lime kiln	State-GA

10.1

LAER

LAER - ADDITIONAL DETERMINATIONS - WOOD PROCESSING 10.0
(CHEMICAL WOOD PROCESSING [PULP MILLS] - 10.1)

NAME - LOCATION	DESCRIPTORS	AGENCY
Continental Forest Industries	Recovery boiler - 75 ton/h of black liquor	State-GA
Proctor/Gamble Oglethorpe, GA	Recovery boiler - 93 ton/hr of black liquor	State-GA

10.2

BACT

BACT/LAER CLEARINGHOUSE REPORT (10.2)

SOURCE TYPE/SIZE: PLYWOOD PLANT 150x10^6 SQ.FT/yr

NAME/ADDRESS: BOISE CASCADE CORPORATION, P.O. BOX 1110, CHESTER, SC

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 8/16/79

BY: (Agency) S.C. DEPT. HEALTH & ENV. CONTROL Person_____ Phone_____

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Woodwaste boiler	210 MM Btu/h	PM	0.05 grains/dscf (B)	Scrubber	98.2
		HC	40 lb/h (L)	Good operating practices	
Sander	18,080 lb/h	PM	.27 lb/h (B)	Fabric filter	93
Drywaste collection	18,080 lb/h	PM	2.58 lb/h (B)	Cyclone	Unknown
system					
Veneer dryers (3)	21,300 lb/h	PM	6.3 lb/h (B)	None	
		HC	3.6 lb/h (L)	Good operating practices	

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ _____ _____ _____
W Sp Su F

NOTES:

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ____in. H_2O; Inlet Vel. = ____ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT

10.2

SOURCE TYPE/SIZE: PARTICLEBOARD 16 TONS/YEAR PRODUCT

NAME/ADDRESS: MASONITE CORPORATION, STUART, VIRGINIA

DETERMINATION DATA: CONDITIONAL, (FINAL) PENDING for (BACT) LAER on NEW, (MODIFIED) SOURCE
KEY DATES: Application-Recd._____, Completed_____; Determination-Proposed_____, Final 7/16/79

BY: (Agency) EPA REGION III Person EILEEN GLEN Phone 597-8187

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE,* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Wood storage to milling	12.5 ton/h	PM	.03 lb/h (B)	Baghouse	99.9
Milling to drying	12.5 ton/h	PM	.075 lb/h (B)	Baghouse	99.9
Dryers	12.5 ton/h	PM	4.0 lb/h (B)	High Efficiency collector	99.9
Dryers to storage	12.5 ton/h	PM	.24 lb/h (B)	Baghouse	99.9
Tipple Reclaim	.26 ton/h	PM	.02 lb/day (B)	Baghouse	99.9
Press line hog saws	.375 ton/h	PM	.003 lb/h (B)	Baghouse	99.9
Sander	1.25 ton/h	PM	.084 lb/h (B)	Baghouse	99.9
CTS saws	.3	PM	.01 lb/h (B)	Baghouse	99.9
Trim waste hog	1.125	PM	.01 lb/h (B)	Baghouse	99.9

SOURCE OPERATION: BATCH/CONTINUOUS:_____hrs/yr; % by Season_____ _____ _____ _____
W Sp Su F

NOTES: Totals: 4.39 lb/h; 106.6 lb/day; 18.4 ton/yr

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid use_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT - ADDITIONAL DETERMINATIONS - WOOD PROCESSING 10.0
(OTHER - 10.2)

NAME - LOCATION	DESCRIPTORS	AGENCY
Proctor and Gamble Paper Products Company McLennan County, TX	Materials handling, boiler gas turbines	EPA RO VI
Burlington Industries High Point, NC	Wood finishing	EPA RO IV

10.2

LAER

LAER - ADDITIONAL DETERMINATIONS - WOOD PROCESSING 10.0
(OTHER - 10.2)

NAME - LOCATION	DESCRIPTORS	AGENCY

11.0 MISCELLANEOUS

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11.0

BACT

BACT/LAER CLEARINGHOUSE REPORT Page 1 of 2 pages (11.0)

SOURCE TYPE/SIZE: OIL SHALE PROJECT 5000 BPD

NAME/ADDRESS: C-B OIL SHALE VENTURE/RIO BLANCO COUNTY, CO (Occidental Oil Shale, Inc. and Ashland Oil of Colorado)

DETERMINATION IS: (CONDITIONAL)/FINAL/PENDING: DATE OF ISSUE: 12/15/77 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION VIII (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Mine Vent		TSP	16.0 lb/hr		
		SO_2	7.0 lb/hr		
In-situ gas		TSP	7.4 lb/hr		
		SO_2	17.4 lb/hr		
Sulfur removal facility for control of gaseous sulfur emissions shall be designed and operated to insure at least 99.0% overall gaseous sulfur recovery and no greater than 15 PPM H_2S concentration in the off-gas are continually achieved. 20% opacity limit for mining operation. Control fugitive dust (water and/or chemical sprays) to greatest extent possible.					

NOTES: Permit covers First phase only.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT Page 2 of 2 pages (11.0)

SOURCE TYPE/SIZE: OIL SHALE PROJECT 5000 BPD

NAME/ADDRESS: C-B OIL SHALE VENTURE/RIO BLANCO COUNTY, CO (Occidental Oil Shale, Inc. and Ashland Oil of Colorado)

DETERMINATION IS: (CONDITIONAL)/FINAL/PENDING: DATE OF ISSUE: 12/15/77 BASIS:* BACT[1]/LAER/(BACT)[2]
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION VIII (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Steam boiler		TSP	16.3 lb/hr or 0.1 lb/MMBtu (whichever is less)		
		SO_2	3.6 lb/hr or 0.8 lb/MMBtu (whichever is less)		
Mine shaft transfer		TSP	1.7 lb/hr		
Shale conveyor		TSP	7.7 lb/hr		
ROM ore handling		TSP	29.2 lb/hr		

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT Page 1 of 2 pages (11.0)

SOURCE TYPE/SIZE: OIL SHALE PROJECT 11,000 BARREL/DAY

NAME/ADDRESS: RIO BLANCO OIL SHALE PROJECT C-a RANGELY, CO (Gulf Oil and Standard Oil)

DETERMINATION IS: (CONDITIONAL)/FINAL/PENDING: DATE OF ISSUE: 12/15/77 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION VIII (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Thermaloxidizer/		PART	11.0 lb/hr		
scrubber		SO_2	167.1 lb/hr - insure 90% gaseous sulfur recovery and no greater than 250 PPMV		
Steam boiler		PART	0.7 lb/hr or (0.1 lb/MMBtu) whichever is less		
		SO_2	16.6 lb/hr or (0.8 lb/MMBtu) whichever is less		

NOTES: Permit covers First phase of project

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

SOURCE TYPE/SIZE: OIL SHALE PROJECT 11,000 BARREL/DAY

NAME/ADDRESS: RIO BLANCO OIL SHALE PROJECT C-a RANGELY, CO (Gulf Oil and Standard Oil)

DETERMINATION IS: (CONDITIONAL)/FINAL/PENDING: DATE OF ISSUE: 12/15/77 BASIS:* BACT[1]/LAER/(BACT)[2]
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION VIII (Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Shaft construction					
(Underground mining)					
Mine Vent		PART	1.6 lb/hr		
Vehicular movement		PART	5.4 lb/hr		
ROM ore handling		PART	9.1 lb/hr		
		Opacity	< 20%		
Fugitive Dust	Must be controlled (water and/or chemically) to greatest extent possible: roads,				
	parking areas, drill pads and shale deposit areas.				

NOTES:

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

11.0

SOURCE TYPE/SIZE: GRAPHITE ELECTRODE MANUFACTURING

NAME/ADDRESS: GREAT LAKES CARBON CORPORATION, New York, NY Site at Benning, AR

DETERMINATION IS: CONDITIONAL/FINAL/PENDING: DATE OF ISSUE: _____ BASIS:* BACT[1] /LAER/(BACT)[2]
FOR NEW/MODIFIED SOURCE

BY Region VI _____ _____ _____
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Graphitizing Furnace		CO	138.32 (B)	Proper building design	
		TSP	0.71 lb/hr (B)		
Materials Preparation		TSP	1.8 lb/hr (B)		
Pneumatic Crane		TSP	2 lb/hr (B)		
Stock cleaning, core		TSP	0.8 lb/hr (B)		
sampling, trimming					
Electrode machining		TSP	1.6 lb/hr (B)		

NOTES: _____

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

SOURCE TYPE/SIZE: COAL CONVERSION PLANT (LOW BTU GAS)

NAME/ADDRESS: OFFICE OF PIKE COUNTY JUDGE, PIKE COUNTY COAL GASIFICATION PROJECT, DOUGLAS, KY

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 10/24/78 BASIS:* BACT[1]/LAER/(BACT)[2]
FOR (NEW)/MODIFIED SOURCE

BY REGION IV/KENTUCKY DEPT. OF NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
Coal gasifiers with emergency flares				Smokeless flare tips	
[a] Indirect heat exchangers (2) 20×10^6 Btu/hr each					
PHASE I AND II		SO_2	The lesser of 17.84 lb/hr or 1.7 lb/10^6 BTU.		
		TSP	The lesser of 7.03 lb/hr or 0.40 lb/10^6 BTU		

NOTES: [a] The indirect heat exchangers can operate in either Phase I or Phase II mode. Phase I represents the source operating mode during which the entire gaseous fuel output from gasifiers and supplemental No.2 fuel oil will be burned in Indirect Heat Exchangers. Continued -

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT

(11.0)

SOURCE TYPE/SIZE: COAL CONVERSION PLANT (LOW BTU GAS)

NAME/ADDRESS: OFFICE OF PIKE COUNTY JUDGE, PIKE COUNTY COAL GASIFICATION PROJECT, DOUGLAS, KY

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 10/24/78 BASIS:* BACT[1]/LAER/(BACT)[2]
FOR (NEW)/MODIFIED SOURCE

BY REGION IV/KENTUCKY DEPT. OF NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
PHASE II only		Opacity	20%		
		H_2S (in low BTU	5 ppm at 85° F	Stretford-Holmes	
		producer gas)		desulfurization system	
				or equal	
Coal handling		Fugitive dust		Wet suppression and	
				enclosure	

NOTES: Phase II represents the source operating mode during which the fuel gas produced by gasifiers will be desulfurized and made available for sale. Indirect heat exchangers will burn only desulfurized fuel gas, No.2 fuel oil and the oils and tar from the gas desulfurization system.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT (11.0)

SOURCE TYPE/SIZE: COAL GASIFICATION PLANT 1 TON/HOUR COAL

NAME/ADDRESS: ROCKWELL INTERNATIONAL, CANOGA PARK, CA Site at Simi Hills, CA

DETERMINATION IS: CONDITIONAL/(FINAL)/PENDING: DATE OF ISSUE: 7/18/78 BASIS:* BACT[1]/LAER/(BACT[2])
FOR (NEW)/MODIFIED SOURCE

BY EPA REGION IX
(Agency) (Person) (Phone)

PERMIT PARAMETERS: AFFECTED FACILITIES	THROUGHPUT CAPACITY, weight rate	POLLUTANT(S) EMITTED	EMISSION LIMIT(S) AND BASIS FOR**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff.,%
All plant facilities	Permit limits to	TSP	0.94 lb/ton coal feed	Fabric filters (6)	99.9+
	24 ton/day (daily				
	avg.) 9 ton/day				
	(annual avg.)				
		SO_2	30.0 lb/ton coal feed	Sulfur removal system	
				(Claus plant)	
		NO_x	59.1 lb/ton coal feed	Also for SO_2 - Limit on S in coal	
				10% daily avg; 5% annual avg.	

NOTES: Water sprays shall be used to control fugitive emissions from aggregate coal storage and loading areas.

* Circle one. BACT-1 indicates determination made under pre-1977 amendments; BACT-2 indicates post-1977 amendments to CAA.

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, L = LAER, P = PSD Increment

BACT/LAER CLEARINGHOUSE REPORT (11.0)

SOURCE TYPE/SIZE: TANK CAR ABRASIVE CLEANING FACILITY 13.5 CARS/DAY

NAME/ADDRESS: UNION TANK CAR COMPANY, CLEVELAND, TX

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 3/28/78, Completed 5/08/78; Determination-Proposed -, Final 2/12/79

BY: (Agency) TEXAS AIR CONTROL BOARD Person L. E. Pewitt Phone (512) 451-4711

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Tank Car Shot Blasting		154 lb/car (PM)	0.01 gr/ACF (A)	Fabric filter	99
		(1.0 gr/ACF)	(7.71 lb/h)		
		(771.43 lb/h)			

SOURCE OPERATION: (BATCH)/CONTINUOUS: 6000 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: This system has two baghouses - the uncontrolled emission rate is 385.71 lb/h from each baghouse or 771.43 lb/h
- the allowable emissions are 36.83 lb/h each or 73.66 lb total
- The actual emission rate is 3.857 lb/h each or 7.71 lb/h total
The emissions of 154 lb/car consist of 60 lb (shot consumed), 44 lb (metal removed from car) and 50 lb (misscellaneous).

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture 100, Collection 99, Overall 99 %

ACFM 45,000 at 70 °F System cost ($): Capital 60,000, Operating _____/Year

CYCLONES: Type _____; Tubes: No. _____, D = _____ in., L = _____ ft; ΔP = ___ in. H_2O; Inlet Vel. = ___ ft/s;
Other: _____

ESP Type _____; Total plate area = _____ ft^2; SCA = _____ ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ ft/s; Other _____

FABRIC FILTER: Type Enviro-Clean Cleaning Mode: Reverse Pulse Fabric: Polyester Felt ΔP = 8 in. H_2O;
Filter vel. (A/C) = _____ ft/s; Other Bag diameter - 5 in., length - 8 ft. 8 in; 432 bags in 12 compartments

SCRUBBER: Type _____; L/G = _____ gal/1000 ACFM; ΔP = ____ in. H_2O; Liquid used _____
Other: _____

AFTERBURNER: Temp. = _____ °F; Residence Time = _____ s; L/D: _____ Other: _____

OTHER TYPE CONTROLS/REMARKS/ETC. Enviro-Clean Model No.432-5D10-5-104 10 acfm/ft^2 of cloth.
Exit from baghouse is at 62 ft/s at ambient temperature and 75% moisture.
Two baghouses in this system - data shown is per baghouse

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FUEL PARAMETERS: Type _____; ____ % A; _____ % S; HV _____ BTU/lb-gal-CF; Use Rate _____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O
<0.5	0	
0.5-1	5	
1-5	30	
5-10	50	
10-20	10	
>20	5	

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER _____

Off-set from on/off site; fugitive/point source; Amount-reqd. _____ T/Y; Achieved _____ T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT/LAER CLEARINGHOUSE REPORT (11.0)

SOURCE TYPE/SIZE: RAILCAR/TANK TRUCK CLEANING 450 CARS/MO

NAME/ADDRESS: EMPAK, INC., HARRIS COUNTY, TX

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for (BACT)/LAER on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 4/4/78, Completed 8/2/78; Determination-Proposed ___-___, Final 9/15/78

BY: (Agency) TEXAS AIR CONTROL BOARD Person A. T. Kott Phone (512) 451-5711

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Purging Rack (8 spot)	290 cars/mo	244 ton/yr (HC)	40 ton/yr (A)	Carbon adsorption	85
				(for chlorinated HC)	
Cleaning Rack (6 spot)	160 cars/mo	100 ton/yr (HCL)	10 ton/yr (A)	Caustic scrubber	90
		80 ton/yr (CL_2)	8 ton/yr (A)	Caustic scrubber	90
				Flare (HC control)	99.9
				Waste gas incineration	99.9
				(toxic, odorous, volatiles)	

SOURCE OPERATION: BATCH (CONTINUOUS) 4380 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: The tank cars as received contain a variety of compounds. Depending on the compound (emissions) the effluent gas stream passes to one or more of the listed controls. The emission limits pertain to the total facility.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used Caustic
Other: No information available

AFTERBURNER: Temp. = 1300 °F; Residence Time =_____s; L/D: 10:1 Other: 23,245 ACFM

OTHER TYPE CONTROLS/REMARKS/ETC. Flare: Smokeless flare fired with 3.3 ACFM of propane or LPG: Waste gas stream maximum equals 300 ACFM; National Oil Burner Company Model NMJM

Carbon adsorption cannister: 55 gallon drum with 150 lb activated carbon serving two (2) car spots. Replenished on demand.

5014

FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/HC/NO_x/SO_2/OTHER_____

Off-set from on/off site; fugitive/point source; Amount-reqd._____T/Y; Achieved_____T/Y

EXPLANATORY REMARKS, NOTES, ETC. _____

BACT - ADDITIONAL DETERMINATIONS - MISCELLANEOUS 11.0

NAME - LOCATION	DESCRIPTORS	AGENCY
Air Products and Chemicals Channelview, TX	CO reformer, flare	EPA RO VI

11.0

LAER

(11.0)

BACT/LAER CLEARINGHOUSE REPORT

SOURCE TYPE/SIZE: NATURAL GAS RECOVERY FROM LANDFILL OPERATIONS 8,000,000 SCFD

NAME/ADDRESS: RESERVE SYNTHETIC FUELS, INC. MONTEREY PARK, CA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) or (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. _____, Completed 5/22/78; Determination-Proposed _____, Final 11/8/78

BY: (Agency) SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, CA Person GENE HOCKMAN Phone (213) 572-6213

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Stripper vent		18.29 lb/h CH_4 (HC)			
		26.81 lb/h organics (HC)			
Flash vent		5.52 lb/h (SO_2)			
		176.92 lb/h CH_4 (HC)			
Internal combustion	1100 hp each	1267.0 lb/day (NO_X)	250.0 lb/day (B)	NO_X catalytic converter	91.7
reciprocating compres-		460.8 lb/day CH_4 (HC)			
sors (2)		51.4 lb/day organics (HC			
		163.6 lb/day (CO)			

SOURCE OPERATION: BATCH/(CONTINUOUS) 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: _____

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture 100, Collection 91.7, Overall 91.7 %

Page ___ of ___

ACFM 360,000 at 1000 - 1200°F System cost ($): Capital 100,000 (2), Operating 10,000 (2) /Year

CYCLONES: Type _____; Tubes: No. _____, D = _____ in., L = _____ ft; ΔP = ___ in. H_2O; Inlet Vel. = ___ ft/s;
Other: _____

ESP: Type _____; Total plate area = _____ ft^2; SCA = _____ ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ ft/s; Other _____

FABRIC FILTER: Type _____ Cleaning Mode: _____ Fabric: _____ ΔP = _____ in. H_2O;
Filter vel. (A/C) = _____ ft/s; Other _____

SCRUBBER: Type _____; L/G = _____ gal/1000 ACFM; ΔP = ____ in. H_2O; Liquid use
Other: _____

AFTERBURNER: Temp. = _____ °F; Residence Time = _____ s; L/D: _____ Other: _____

OTHER TYPE (CONTROLS)/REMARKS/ETC. Two (2) NO_x catalytic converters: Vol. = 4.0 ft^3 (ea.); design removal = 91.7%; design inlet = 4350 ppm; design outlet = 362 ppm.

FUEL PARAMETERS: Type _____; ____ % A; _____ % S; HV _____ BTU/lb-gal-CF; Use Rate _____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/(HC)/NO_x/SO_2/OTHER _____

Off-set from (on)/off site; (fugitive)/point source; Amount-reqd See note T/Y; Achieved See note T/Y

EXPLANATORY REMARKS, NOTES, ETC. Plant essentially controls gaseous emissions from landfilling operations. Offsets are:

				NET DECREASE (INCREASE)	
LANDFILL:	SO_x = 24.2 ton/yr	NEW FACILITY:	SO_x = 24.2 ton/yr	SO_x	0 ton/yr
	CH_4 = 34,522 ton/yr		CH_4 = 939 ton/yr	CH_4	33,583 ton/yr
	Oraganics = 1,594 ton/yr		Organics = 127 ton/yr	Orqanics	1,467 ton/yr
	NO_x = 0		NO_x = 43.8 ton/yr	NO_x	(43.8 ton/yr)
	CO = 0		CO = 30 ton/yr	CO	(30 ton/yr)
	PM = 0		PM = 0	PM	0 ton/yr

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BACT/LAER CLEARINGHOUSE REPORT (11.0)

SOURCE TYPE/SIZE: WASTEWATER TREATMENT FACILITY

NAME/ADDRESS: VULCAN MANUFACTURING COMPANY, GEISMAR, LA

DETERMINATION DATA: CONDITIONAL/(FINAL)/PENDING for BACT/(LAER) on (NEW)/MODIFIED SOURCE
KEY DATES: Application-Recd. 8/17/76, Completed 12/22/76 Determination-Proposed -, Final 2/15/77
BY: (Agency) LOUISIANA AIR CONTROL COMMISSION Person ATLEY BRASHER Phone (504) 568-5129

AFFECTED FACILITIES	THROUGHPUT CAPACITY	EMISSION RATE* -UNCONTROLLED	EMISSION LIMITS (Basis)**	CONTROL STRATEGY DESCRIPTION Equipment type, etc.	Eff. %
Waste Neutralizer Tank	33,000 gal			Vent condensers	90
Carbon Dioxide	33,000 gal			Vent condensers	90
stripper tank					

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SOURCE OPERATION: BATCH/CONTINUOUS: 8760 hrs/yr; % by Season 25 (W) 25 (Sp) 25 (Su) 25 (F)

NOTES: Wastewater treatment facility required to fulfill NPDES permit requirements. The HC emissions are associated with air purging of effluent stream (to adjust PH). The purging strips HC from effluent stream and results in HC air emissions.

* Specify pollutant (PM, SO_2, NO_x, HC, CO or other) and mass emission rate

** Basis symbols: Use B = BACT, N = NSPS, S = SIP, A = Achieved-in-Practice (AIP)

CONTROL EQUIPMENT PARAMETERS: Efficiencies (%) Capture____, Collection____, Overall____%

ACFM_____at _____°F System cost ($): Capital_____, Operating_____/Year

CYCLONES: Type_____; Tubes: No._____, D =_____in., L = _____ft; ΔP = ___in. H_2O; Inlet Vel. = ___ft/s;
Other:_____

ESP Type_____; Total plate area = _____ft^2; SCA =_____ft^2/1000 ACFM; L/W ratio = _____
Linear vel. = _____ft/s; Other_____

FABRIC FILTER: Type_____Cleaning Mode:_____Fabric:_____ ΔP = _____in. H_2O;
Filter vel. (A/C) = _____ft/s; Other_____

SCRUBBER: Type_____; L/G = _____ gal/1000 ACFM; ΔP =____in. H_2O; Liquid used_____
Other:_____

AFTERBURNER: Temp. = _____°F; Residence Time =_____s; L/D:_____ Other:_____

OTHER TYPE CONTROLS/REMARKS/ETC._____

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FUEL PARAMETERS: Type_____; ____% A;_____% S; HV_____BTU/lb-gal-CF; Use Rate_____

PARTICLE SIZE and/or FRACTIONAL EFF. DATA		
μm	%<	ΔP, in. H_2O

OFF-SET DATA: POLLUTANT(S) - PM/CO/(HC)/NO_x/SO_2/OTHER_____

Off-set from (on)/off site; fugitive/(point) source; Amount-reqd. 53 T/Y; Achieved 209 T/Y

EXPLANATORY REMARKS, NOTES, ETC. Offset obtained by installation of vent condensers on miscellaneous process operations to remove HC from process streams and prevent HC entry into wastewater.

LAER - ADDITIONAL DETERMINATIONS - MISCELLANEOUS 11.0

NAME - LOCATION	DESCRIPTORS	AGENCY
Firestone Tire/Rubber Company Lavergne, TN	Boiler, tire manufacturing lines	EPA RO IV
Michelin Tire Corp. Lexington, SC	15,700 lb/h tires	State-SC

United States
Environmental Protection
Agency

Office of Air, Noise, and Radiation
Office of Air Quality Planning and Standards
Research Triangle Park NC 27711

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